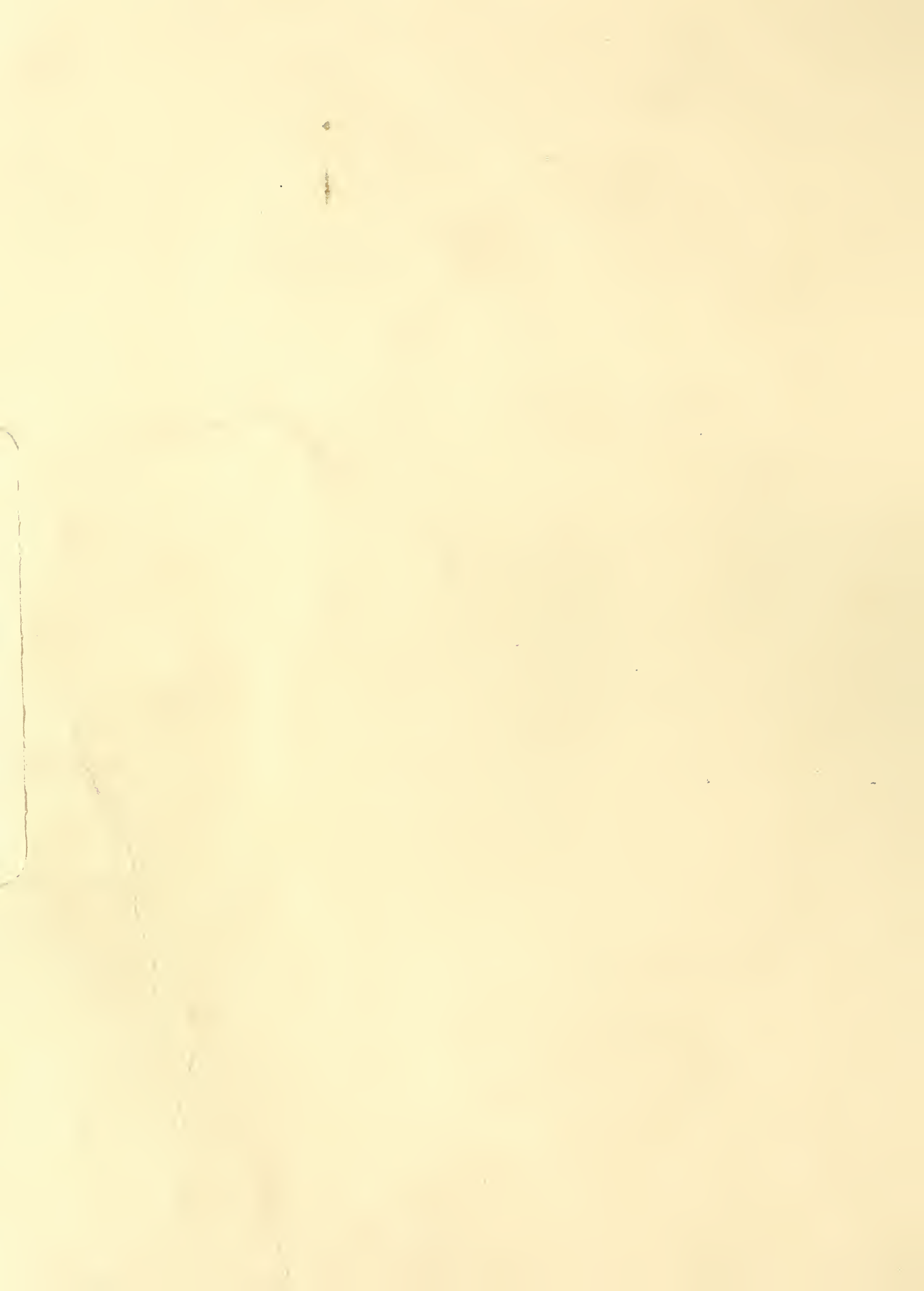


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# Vegetable Situation

Economic Research  
Service

TVS-206

U.S. Department of  
Agriculture

OCTOBER  
1977

Approved by the  
World Food and  
Agricultural Outlook  
and Situation Board



# OUTLOOK '78



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# THE VEGETABLE SITUATION

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The *Vegetable Situation* is published in January, May, August, and November.

## SUMMARY

This fall, if yields hold close to the historical average, fresh market vegetable supplies may be about 6 percent larger than a year earlier. Although some seasonal rise is expected during the remainder of 1977, grower prices may average slightly less than a year earlier. While retail prices will likely increase seasonally, they should hold close to the fourth quarter level of 1976.

With much larger quantities of tomatoes and sweet corn, raw tonnage of the seven major processing vegetables, this year, is up a generous 18 percent from a year-earlier. Wholesale prices for canned vegetables rose steadily between March and August, but with heavier supplies for the months ahead, it is likely that canned vegetable prices will average about the same or barely higher than in late 1976.

The supply picture is tighter for frozen products, and fewer promotional allowances are expected this fall than for canned. Nonetheless, stocks of frozen vegetables on October 1 were only 1 percent smaller than a year earlier. While wholesale frozen vegetable prices moved up during the summer, most frozen vegetable prices will remain moderately to substantially higher than a year earlier.

With another large crop of fall potatoes in prospect—only 1 percent below the 1976 record—grower prices will remain low and hold close to the average of a year earlier. Had it not been for untimely late September rains in several eastern and mid-western districts, the crop might have turned out even larger. By early September, markets were cleaning up summer supplies which helped the grower price situation to some extent. However, with export demand returning to the usual pattern, and processing activity only moderately strong, the market lacks the brisk pace of a year earlier.

The 1977 fall crop of *dry beans* is 7 percent smaller than a year earlier. Supplies of white beans this season are likely to be about the same but fewer colored classes, especially pintos, are expected. Late season rains in Michigan and the Red River Valley cut crop prospects, and boosted prices sharply by early October.



## RECENT DEVELOPMENTS AND OUTLOOK

### FRESH VEGETABLES

The 1977 supply of fresh vegetables and melons varied much more among seasons than usual, although the supply for the year may fall within the range of 1 percentage point of a year earlier. The sharply reduced winter crop was almost offset by larger spring output and sharply heavier imports the first half of the year. Summer and fall output probably will be larger than last year when all the production data are tallied in December.

Even though water will remain critically short in California, through the fall, enough will continue to be available to bring in ample supplies of vegetables. This past summer, California vegetable producers drilled deeper wells, shifted production areas, and, in some instances, traded water with other growers in order to bring in vegetable supplies close to the market's normal needs. Also, some growers in other States planted more in anticipation of short supplies from California. As a result, supplies of many crops were adequate to generous this summer, despite the drought in the leading vegetable producing State.

Fresh market vegetable prices to growers averaged sharply higher for the first half of 1977 because of the Florida freeze plus reduced shipments from Texas early in the year. Increased supplies in late spring and summer pushed prices down rapidly, and for the summer quarter of 1977, the fresh vegetable price index actually dropped a point below the same period of 1976.

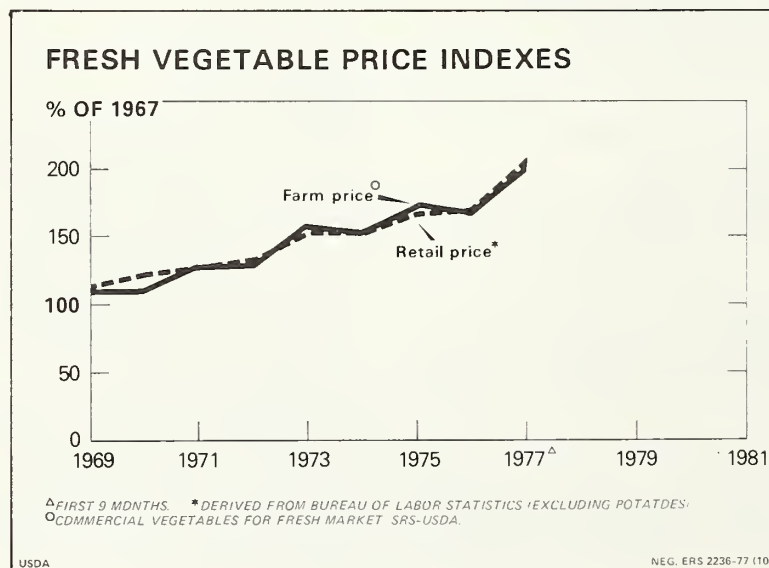
Fresh vegetable supplies<sup>1</sup>

Supply	1976	1977
<i>1,000 cwt.</i>		
U.S. winter production . . . . .	34,149	29,680
U.S. spring production . . . . .	58,903	60,734
U.S. spring onions . . . . .	7,172	5,343
Imports (Jan.-June) . . . . .	14,006	16,639
Total six months supply . . . . .	114,230	112,396
U.S. summer production . . . . .	64,341	<sup>2</sup> 64,606
U.S. fall production . . . . .	44,237	<sup>2</sup> 46,866
U.S. spring onions . . . . .	20,810	19,706
Imports (July-Dec.) . . . . .	2,961	N.A.
Annual supply . . . . .	246,579	±1%

<sup>1</sup> Includes melons. <sup>2</sup> Based on historical average yields.  
<sup>3</sup> Estimate.

N.A.—Not available.

For the rest of 1977, a slight seasonal price rise may be expected, with prices averaging slightly less than the fourth quarter of last year. Retail vegetable prices in 1977 followed grower price trends, though not in as volatile a pattern, rising less, but falling less somewhat later. This relationship is the usual pattern. For the third quarter, the index of retail fresh vegetable prices is 178 (1967=100), a figure 7 percent more than the comparable quarter of 1976. Fourth quarter retail prices may rise slightly, yet hold close to or a little above a year earlier.



Quarterly index of farm prices for fresh vegetables<sup>1</sup>  
1967=100

Year	1st.	2nd.	3rd.	4th.	Annual
1969 .....	108	108	94	131	110
1970 .....	125	113	103	97	110
1971 .....	125	129	106	143	126
1972 .....	134	126	123	133	129
1973 .....	160	143	145	126	156
1974 .....	143	164	143	158	152
1975 .....	168	183	165	174	173
1976 .....	178	154	166	184	170
1977 .....	257	181	165		

<sup>1</sup> Excludes potatoes.

USDA SRS

Quarterly retail prices for fresh vegetables<sup>1</sup>  
1967=100

Year	1st.	2nd.	3rd.	4th.	Annual
1969 .....	114	115	106	119	114
1970 .....	130	131	111	111	121
1971 .....	119	137	120	129	126
1972 .....	137	134	128	133	133
1973 .....	151	167	153	138	152
1974 .....	150	160	152	151	153
1975 .....	168	169	165	160	166
1976 .....	170	168	165	179	170
1977 .....	221	216	178		

<sup>1</sup> Excludes potatoes.

USDA BLS derived

## Fall Acreage and Supply Prospects

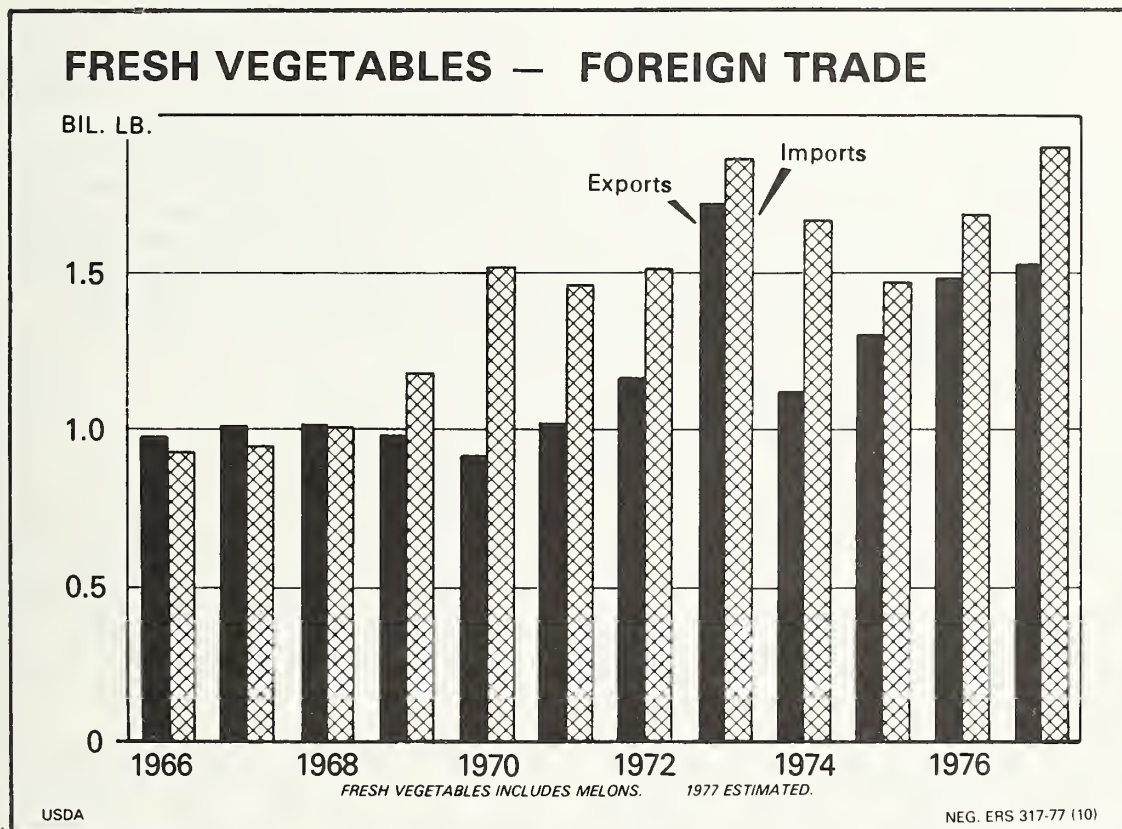
Fall fresh vegetable acreage in the United States is 5 percent larger than a year earlier, which would mean 6 percent larger tonnage if yields follow the recent historical average. These data include 14 crops but omit melons. The crops that show the greatest acreage and/or potential production gain are snap beans, broccoli, cabbage, carrots, cauliflower, cucumbers, eggplant, lettuce, peppers, tomatoes, and Florida sweet corn. Prospects are for less celery, spinach, and California sweet corn.

## Prospects for Leading Items

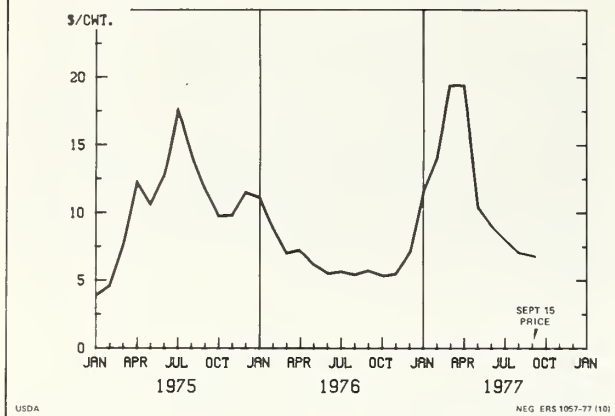
### Onions

Summer storage onion production is estimated at 16.8 million cwt, a 3 percent decrease from last year. Prices in October for eastern yellow globe and Spanish types were near last year's levels and will probably remain so for the rest of the season. However, western white onions were selling for substantially more.

Yields in all States except Minnesota, New York, Ohio and Utah were below last year's levels. Moreover, harvest in Upstate New York was delayed because of heavy and persistent rains. Yields may



## ONIONS : U.S. GROWER PRICES



turn out to be less because of rot and other conditions associated with wet harvests. Late varieties in Orange county have yielded below earlier expectations. Harvests were also delayed because of rain in Michigan and Idaho. Minnesota yields are higher as a result of larger than average onions while in Utah and Washington, the sizes are running smaller than usual.

With larger onion harvests expected in the major producing countries of Western Europe, U.S. exports to that part of the world are expected to decline during the 1977/78 shipping season (October-September). But, with a smaller crop expected in Japan, U.S. exports to that country may increase. Two other onion exporting nations, Egypt and India, may not be as active in 1977/78. India has banned exports in order to lower their domestic prices and in Egypt, diseases are reportedly affecting the size and quality of their crop.

The Foreign Agricultural Service (FAS) notes that onion exports to the Far East and Latin America have been on the rise in recent years and are expected to accelerate.

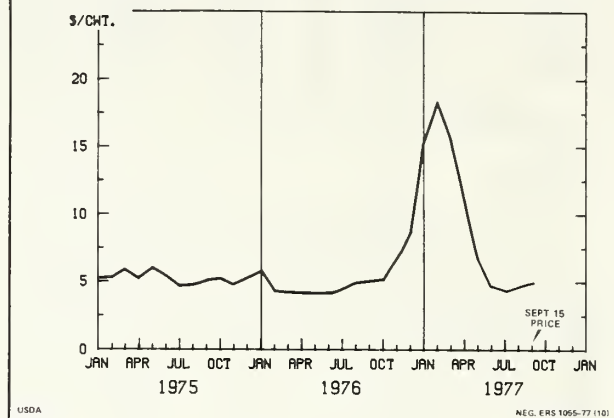
For 1978, Texas spring crop growers intend to plant 19,800 acres—16 percent more than in 1977. Weather conditions have been generally favorable for seeding in South Texas but somewhat less favorable in the Winter Garden and Laredo areas because of hot, dry weather.

## Cabbage

Cabbage acreage for fall harvest is at 28,500 acres—nearly 3 percent more than last year. With average yields, this would result in a 4 percent larger production and weak to lower prices the rest of the year. In New York, which is the largest volume producer of fall cabbage, maturity is ahead of normal. Recent rains have caused some head split-

ting and harvest was slowed in September because of excessive moisture. Other producing States have had generally favorable weather so far during the harvest season.

## CABBAGE : U.S. GROWER PRICES

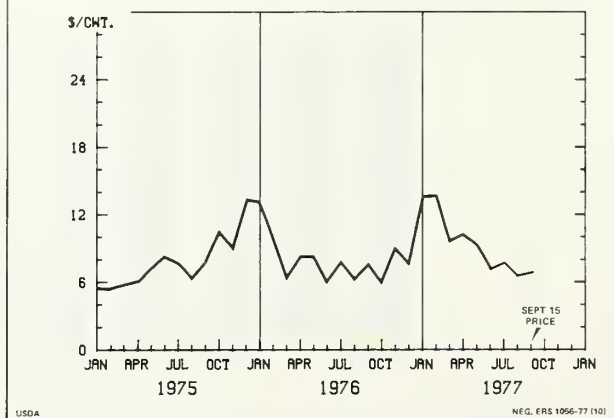


## Celery

Fall acreage in the four principal producing states is 9,210 acres—3 percent below last year—with acreage decreases in California, Florida, and New York. Based on average yields, a 3 percent smaller crop than last year is possible. Some acreage was lost because of flooding in New York and the rain interrupted Michigan harvest. Growers in Florida are slightly behind last year's schedule because of rains which interrupted transplanting schedules.

Celery prices from January through June averaged above the relatively high prices of last year. In July, prices dropped to last year's level's and have continued moving downward since then. However, with a smaller crop in prospect, prices may begin to show some new strength.

## CELERY : U.S. GROWER PRICES

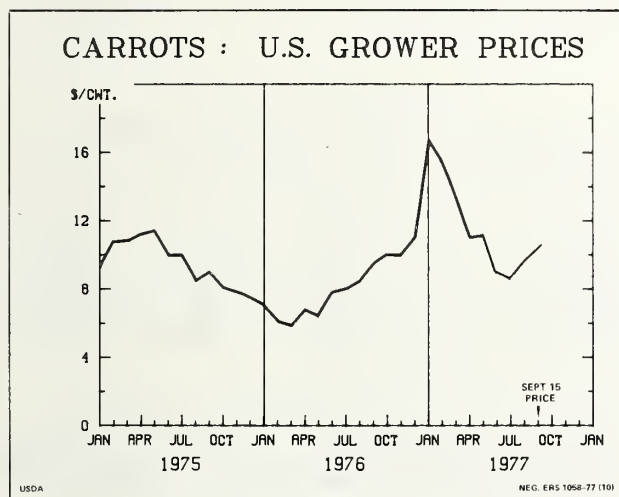




## Carrots

Fall carrot acreage for harvest is 22,700 acres in the major producing States, 15 percent larger than in 1976. Acreage increases have occurred in all major producing States, with California the leading State up 13 percent, excluding the Desert areas. Based on average yields, fall carrot production could be 7.3 million cwt. or 18 percent above a year earlier.

Prices have been above last year's levels throughout 1977. The highest prices occurred in the period January through May when they were about double those of a year earlier. With prospects for a much larger crop, prices may ease off from current levels for the balance of the year. However, there are indications that yields may be below average in some of the States. While hot dry weather early in the growing season advanced maturity, wet weather in August and September slowed harvest. Columbia Basin growers expect slightly less than normal production due to widespread rot problems.



## Sweet Corn

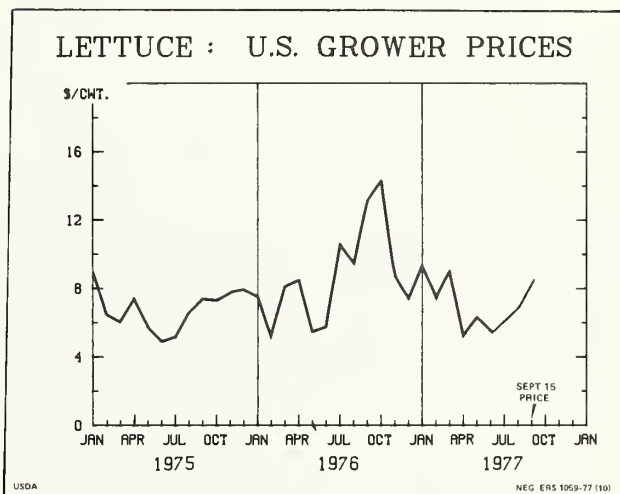
Most of the sweet corn during the fall quarter comes from the Florida Everglades where a 4 percent larger acreage is expected. This continues the long term expansion of this crop in that area. But the U.S. fall acreage is only 1 percent more this year, due to a sharp drop in California. This acreage pattern suggests a little more sweet corn for East Coast markets, but less for Californians.

## Lettuce

With only Florida showing a reduction in acreage, the U.S. 1977 fall acreage of lettuce, at 59,400 acres, will be 4 percent larger than last year.

Rainfall has been short in some areas of New Jersey and growers have been irrigating. New Mexico's crop was in fair condition. In Arizona harvest began on a limited basis in mid-September. Size and quality was good in early picked fields. Fall crop planting in Western Arizona is nearly finished and good stands were reported in most fields. A recent heavy rain saturated the Yuma area necessitating the replanting of some fields. Planting was also delayed by 2 weeks in other fields. California fall harvest is active in the Salinas Valley. Volume will be heavier than normal through October, and harvest will soon begin in the Brentwood area and San Joaquin Valley. In the desert, harvest will begin in late December.

Shipping point prices have been below last year's levels but have moved up sharply early in October to \$5.00-\$6.00 a crate. Sufficient acreage is planted to hold prices to moderate levels in the \$3.50-\$4.50 range, but unfavorable weather conditions—either cold or heavy rains—in one or more major shipping districts could cause temporarily short supplies and higher prices for limited periods this fall and early winter.

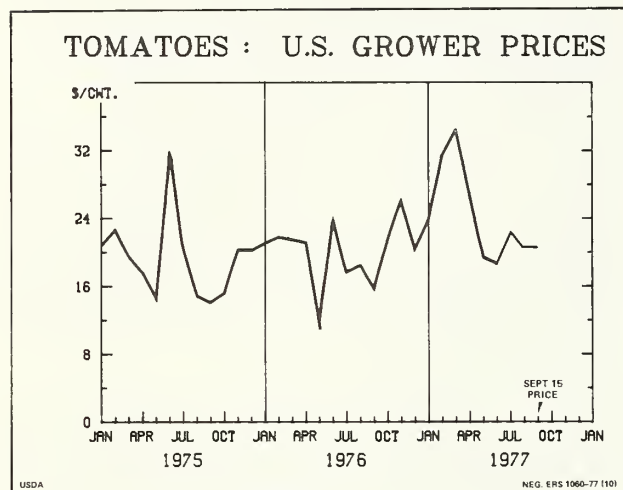


## Tomatoes

U.S. fall tomato plantings are 14 percent larger than a year earlier. Average yields would suggest a supply a tenth larger this fall. There is a sharply larger staked acreage in Florida this year, 10,582 versus 7,875 a year earlier. Ground acreage is 3 percent less, and this style of culture now accounts for only about a fourth of Florida's fall planting. The first fall harvest began in the Palmetto-Ruskin area in early October. With crop conditions ranging from fair to excellent. In California, tomato picking is active in the Central Coast area and in

the San Joaquin Valley, but most of the late season volume will originate from the South Coast. These two States account for 95 percent or more of the fall crop. Small acreages are reported in Texas and Alabama.

Prices for tomatoes are expected to show some seasonal rise before the end of the fall period. However, the larger acreage planted in California and especially Florida does suggest average prices lower than last year.



## PROCESSED VEGETABLES

Contract acreage devoted to processing vegetable crops was 4 percent larger this year as there was a need to replenish frozen vegetable stocks, and a few canned items like beans and beets were on the light side. However, raw product tonnage from this acreage is a whopping 18 percent greater this year, despite the threat posed by drought in California, the Pacific Northwest, and parts of the upper Midwest. This suggests that many individual producers successfully managed to solve their water supply problems, and that heavy production of tomatoes and sweet corn has resulted.

On the basis of partial data, the carryover of leading canned vegetables was less than last season but larger than 2 years earlier. Recent stocks of frozen vegetables have been the lowest since the summer of 1973. While there was no shortage, the reduced stocks did serve to illustrate the need for some increase in supply. When canned and frozen carryovers are added to the 18 percent larger supply of raw product, supplies of many items—tomatoes, tomato products, and sweet corn in particular—will be generous in the coming months. Expected wholesale price rises will, therefore, be blunted to some extent, despite the rising cost of

tinplate, package material, labor, and utilities used to make 1978 packs. At this juncture, it is difficult to determine whether prices of canned vegetables will rise enough to recover the added costs associated with 1977 vegetable processing. For example, the tinplate cost index (WPI Code 1031-0101) rose 7 percent between the first half of 1976 and the first half of this year. In addition, the Bureau of Labor Statistics (BLS) average wage rate in canneries rose from \$4.38/hr. in June 1976, and in same month of 1977 was \$4.71/hr. Generally, raw product costs, too, have been moderately higher in 1977.

### Canned vegetable supplies and disappearance<sup>1</sup>

Year	Pack and carryover	Disappearance
<i>Million cases 24/303's</i>		
1973/74 .....	352	324
1974/75 .....	359	308
1975/76 .....	408	334
1976/77 .....	387	326
1977/78 .....	<sup>2</sup> 403	---

<sup>1</sup> 10 items combined which account for roughly 50-55 percent of raw product tonnage. <sup>2</sup> Projected-based on Sept./Oct. SRS raw tonnage estimates.

### Frozen vegetable stocks, October 1

Commodity	1975	1976	1977
<i>Mil. lbs.</i>			
Lima beans .....	104.3	92.2	65.2
Snap beans .....	253.6	180.9	177.5
Sweet corn <sup>1</sup> .....	362.7	359.2	426.5
Green peas <sup>2</sup> .....	358.9	374.4	315.5
Spinach .....	85.6	93.5	83.3
Broccoli .....	87.7	58.3	86.4
Carrots <sup>2</sup> .....	72.9	51.6	57.4
All frozen (excluding potatoes) .....	1,740.7	1,585.8	1,567.6

<sup>1</sup> Sweet corn on-cob not converted to cut equivalent. <sup>2</sup> Peas and carrots mixed not included.

Much of the gain in tonnage is coming from California tomatoes which do not directly compete with other fresh and processed vegetables. However, not all this increase for 1977 is associated with tomatoes. There are also larger crops of lima beans, snap beans, sweet corn, and beets—items which are often substituted one for the other, depending on price and availability. For example, the large pack of canned sweet corn expected this year probably will have some effect on prices of peas, snap beans, and other canned items.

The total supply (pack plus carryover) of canned vegetables for 1977/78 at this time looks to be about 2 to 4 percent larger than a year earlier and nearly equal to 2 years ago. This estimate excludes



most tomato products but includes pickles and sauerkraut.

Wholesale prices for canned vegetables rose steadily between March and August. With promotional allowances and off-the-line price cuts numerous, it is now likely that prices will average either the same or barely higher than in late 1976. In contrast, wholesale prices for most frozen vegetables range at least moderately to substantially higher this fall than last. It appears that there will be fewer promotional allowances for frozen vegetables than for canned, as the supply picture shows signs of being adequate but certainly not excessive. Stocks of frozen vegetables on October 1 were 1.6 billion pounds, 1 percent less than a year earlier.

### Prospects For Leading Items

#### Peas

With raw tonnage for canning and freezing estimated at 448,750 tons, the combined pack of peas was moderately less this season. The 1977 pack of canned peas was 30 million cases (24/303's), 6 percent less than a year earlier. Supplies, while smaller than last year, are certainly adequate for trade needs. Wholesale prices are generally slightly less than a year ago.

Canned green peas: Supply and disappearance

	1975/76	1976/77	1977/78
<i>Mil. cases 24/303's</i>			
Carryover .....	4.5	8.4	7.7
Pack .....	35.2	31.9	30.0
Total supply ....	39.7	40.3	37.7
Disappearance ...	31.3	32.6	---

The 1977 pack of frozen peas is estimated at 325 million pounds. Stocks on hand September 1 were 347.7 million pounds, a tenth less than last year, which explains why prices are substantially higher than year earlier. With current supplies reduced, prices are expected to remain generally firm during the balance of the 1977/78 shipping season.

#### Lima Beans

Lima bean tonnage for canning and freezing is 72,000 tons, 29 percent more than last year. Increased contract tonnage in California is largely responsible. Most tonnage from that State will be frozen.

Carryover stocks of both fordhooks and baby limas were sharply reduced, and larger packs were needed to replenish supplies. Prices for both are substantially higher this fall.

The carryover of canned limas was 654,000 cases, an average amount for recent years. With

yields expected to be either average or less, it appears that the total supply of canned limas would be no more than adequate to maintain recent historical movement.

#### Snap Beans

Although the tonnage of snap beans for canning and freezing is a fifth larger this year, total supplies are expected to be smaller than a year earlier. The carryover of canned green beans into 1977/78 was light, the result of good domestic trade demand and an export sale to West Germany. Prospective supplies of canned beans are adequate and wholesale prices are expected to hold firm, as this item has the strongest market of the volume leaders which also include peas and sweet corn.

Canned snap beans: Supply and disappearance

	1975/76	1976/77	1977/78
<i>Mil. cases 24/303's</i>			
Carryover .....	15.3	13.6	5.7
Pack .....	55.4	47.4	
Total supply ....	70.7	61.0	
Disappearance ...	57.1	55.3	

Carryover stocks of frozen green beans last July 1 were the smallest in recent history. By September 1, stocks had increased to 163.6 million pounds, which was still moderately less than a year earlier for the same date. It appears that yields in the Pacific Northwest were somewhat below average, and in mid-September, freezers announced price increases for the new pack. The current list price of \$6.30 per 24/9 oz. case compares with \$5.00 a year earlier. Institutional packs are bringing 40 cents a pound compared with 33 cents in October 1976.

#### Sweet Corn

Processing volume of 2.5 million tons is 13 percent larger than last year with most of the gain centered in the canning States of Minnesota and Wisconsin. While New York also has a much larger crop this year, the three Pacific Northwest States combined expect to harvest slightly less. This would tend to affect freezing tonnage to a greater extent.

With another large carryover of canned corn, coupled with the prospect of a heavy pack, deep discounts are being offered to buyers to stimulate movement. It appears that supplies will be record large this fall and winter. Even if disappearance equals nearly 57.5 million cases 24/303's, the best in recent history, substantially less acreage will be needed from growers in 1978.

Canned sweet corn: Supply and disappearance

	1975/76	1976/77	1977/78
	Mil. cases 24/303's		
Carryover .....	5.1	9.7	9.7
Pack .....	57.5	54.7	
Total supply .....	62.6	64.4	
Disappearance .....	52.9	54.7	

Although the carryover of frozen corn was barely larger than a year earlier, the pack prospect suggests something close to expected demand with room for a nominal carryout at the end of this new sales season. The pack in the Pacific Northwest is not expected to be large enough to affect prices the way the canned market is now being hit. September 1 stocks of frozen corn were 19 percent larger than a year earlier, but this includes a substantial quantity of new pack.

### Tomatoes

Increased acreage and improved yields are responsible for the second largest tomato tonnage in California history, as total tonnage for the United States is also about a tenth less than the record 2 years earlier.

Canned tomatoes: Supply and disappearance

	1975/76	1976/77	1977/78
	Mil. cases 24/303's		
Carryover .....	5.3	12.0	9.4
Pack .....	53.5	42.6	
Total supply .....	58.8	54.6	
Disappearance .....	46.8	45.2	

Deliveries to California canners were about 25 percent larger by early October, with 6.8 million tons of raw product moved, in comparison to the 5.4 million tons of a year earlier. The stage is set for sharply increased supplies of tomato products, and probably more peeled as well. As a result, wholesale prices for nearly all items have weakened in recent weeks. California canned tomatoes standard grade 6/10's were bringing \$9.25/case late in September, compared with \$9.75 back in June. California catsup is moving for less too, but East and Midwest prices generally were not down to the same extent, reflecting a moderately reduced supply of raw product from last year in these two regions. These two areas combined will account for only about 15 percent of total tomato tonnage in 1977.

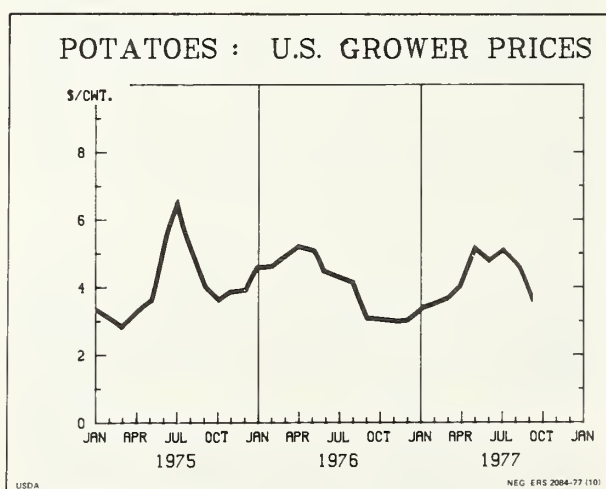
## Highlights for Other Processed Vegetables

With a sharply larger canning *beet* crop this year, there is the probability that supplies will again be almost as large as two seasons earlier when the supply exceeded 17 million cases of 24/303's. The tonnage of cabbage for *sauerkraut* is estimated 3 percent more than in 1976. This would result in a good balance between supplies and expected disappearance. *Frozen broccoli* stocks on September 1 were 103 million lbs., as a relatively large pack was made in California this past spring and summer. This figure is sharply higher than a year earlier, but is only 10-12 million lbs., higher than in other recent years. With competing stocks of *frozen cauliflower* definitely on the short side, and with only moderate supplies of frozen vegetables on hand, there is not a lot of pressure to reduce broccoli prices to stimulate movement. Total *frozen carrot* stocks are light, and prices hold firm. A late fall pack in California is expected to replenish supplies. *Frozen spinach* stocks, while smaller than last season's record supply, are very much in line with most other recent years.

## POTATOES

### Setting the Stage for 1977/78

The 1976/77 potato season was one of record large supplies. Had it not been for the export market, which eventually took the raw equivalent of 27 million cwt. (excluding frozen products), average U.S. prices would not have recovered as they did. These export markets were of greater benefit to eastern growers, while grower prices in the Pacific Northwest remained on the low side most of the





season. Exports are not likely to play an important role in 1977 season marketing since Western European crops are adequate to abundant this season.

Most of the gain in 1976/77 exports was in dehydrated products—the most economical form for long distance shipping. Nonetheless, table stock export shipments, largely from Maine and New York, did increase as well. For the entire season, 8 percent of the U.S. crop of 1976 went to foreign outlets. About 2 or 3 percent shipped mostly to Canada is the normal export situation.

**Crop year potato exports<sup>1</sup>**  
(Fresh weight basis)

Year	Dehydrated	Fresh	Total	Percent of Total crop
<i>Mil. cwt.</i>				
1973/74 . . . . .	2.3	5.6	7.9	3%
1974/75 . . . . .	1.7	3.6	5.3	2%
1975/76 . . . . .	11.1	10.0	21.1	6%
1976/77 . . . . .	16.1	11.0	27.1	8%

<sup>1</sup> These data may vary slightly from other USDA reports, since this table is based on a U.S. September through August crop year.

The U.S. summer crop of potatoes moved somewhat ahead of schedule this season, at least for some important growing areas. This year there was no substantial backlog of summer crop interfering with fall season marketings. The U.S. summer crop of 22.2 million cwt. was 2 percent less than a year earlier, but 6 percent more than the short crop of 1975.

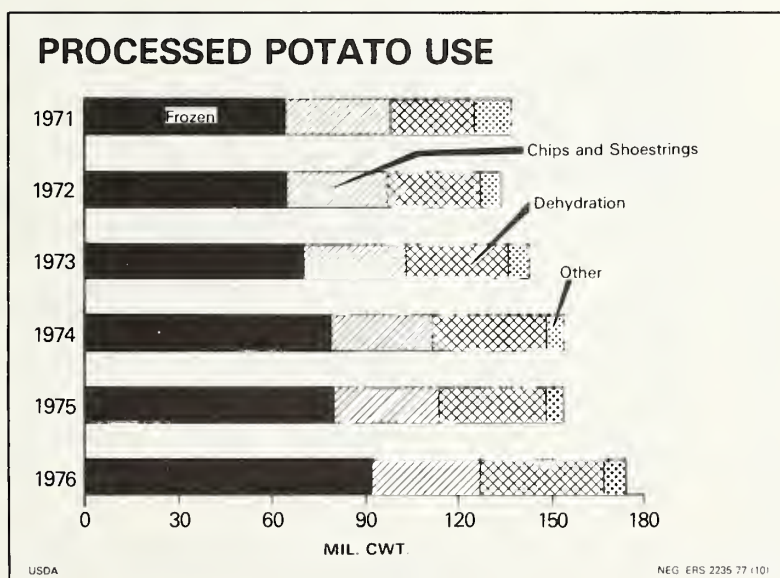
Heavy rains during the last half of September delayed fall harvests in many eastern and mid-western districts, temporarily raising prices slightly, and possibly reducing yields to some extent.

The U.S. fall crop production of 303.6 million cwt. is indicated 1 percent smaller than the record crop of 1976, and area for harvest virtually unchanged from last year. Yields were slightly lower, 266 cwt. versus 269 in 1976.

In the eight Eastern fall States, production at 51.6 million cwt. is 2 percent above a year earlier although yields were below those of last year. Blight, a major problem in southern Aroostook County, forced many growers to kill vines and harvest some fields earlier than normal. In addition, wet weather during harvest caused some acreage loss and rot is evident in some fields. Heavy rains throughout September restricted harvest in New York and standing water caused some quality problems. In Pennsylvania, harvesting was also frequently interrupted because of excessive moisture.

In the eight Central States, production is 13 percent more than a year earlier at 64.6 million cwt. Yields were above those of 1976 and 21,000 more acres were harvested than a year ago. Wet weather delayed harvest in many areas of Michigan. While the Red River Valley area of Minnesota and North Dakota had some interruptions in harvesting because of rain, the quality of the crop is good.

Production in the Western States at 187.4 million cwt. is 6 percent less than last year. Both acreage and yields were lower than last year. Quality of the crop is generally good. Rains have caused some delays in harvest in northern California.



## Price and Supply Implications

With a fall crop only 1 percent smaller than last year's record high, grower prices in the fourth quarter will remain low and hold close to those of a year earlier. Had it not been for blight in Maine and untimely rains in several Eastern and Midwestern districts, the crop might have turned out even larger. Markets were cleaning up summer supplies which helped the grower price situation to some extent, but with export demand reverting more to the usual pattern, and processing activity only moderately strong, the market lacks the brisk pace of a year earlier.

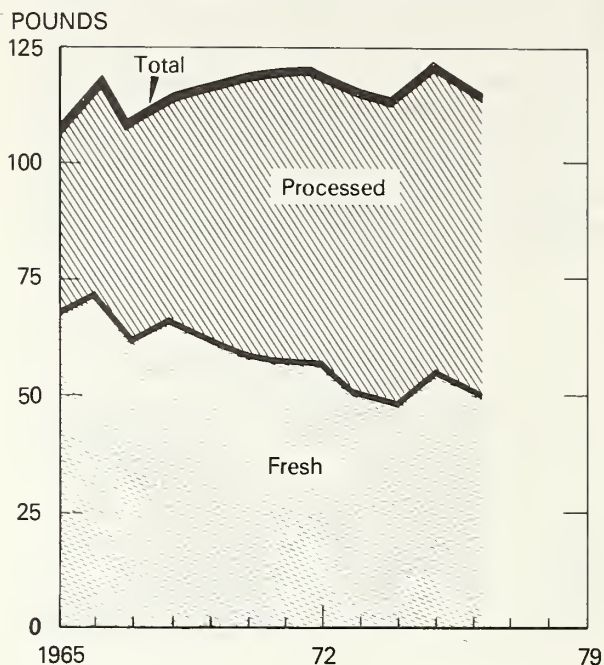
## Winter Acreage Up 1.5 Percent

Growers in California intend to plant 11 percent less acreage for harvest in the winter quarter of 1978. On the other hand, Florida growers intend to increase their acreage for harvest by 8 percent or to 9,800 acres. Overall, the intended winter quarter acreage is 1.5 percent above that for 1977. In light of the present estimate of 1977 fall crop, Florida grower's may reassess their intentions.

## Per Capita Use To Recover

Total per capita potato use declined in 1976, but is expected to recover as record large stocks were carried over to the current year. Per capita processed potato consumption fell slightly in calendar year 1976, the first time in 20 years of statistical record. It was due to smaller January stocks of 1975 crop, plus record export activity in dehydrated products. Frozen products have continued making annual gains thus far in the 1970's, while chip use has eased downward slightly, though some recovery was shown in 1976.

## PER CAPITA CONSUMPTION OF POTATOES



1977 PRELIMINARY.

Changes in fresh potato use often reflect changes in crop size. For example, the 1975 gain resulted from the large carryover of the 1974 crop into the following year.

## SWEETPOTATOES

The U.S. sweetpotato crop at 12.7 million cwt. is substantially smaller this year, and is the smallest production since 1973. Both acreage and yield are

Production and per capita consumption of potatoes, 1960-76

Year	Production	Per capita consumption						
		Total fresh and processed	Fresh	Processed <sup>1</sup>				
				Total	Canned <sup>2</sup>	Frozen	Chips and shoestrings	Dehydrated
	Million cwt.			Pounds				
1965	291.1	107.0	68.2	38.8	1.7	14.3	15.8	7.0
1966	307.2	116.8	72.4	44.4	1.7	17.3	16.7	8.7
1967	305.8	108.0	62.0	46.0	1.7	19.0	16.9	8.4
1968	295.4	115.2	65.9	49.3	1.9	21.2	17.1	9.1
1969	312.4	116.8	61.6	55.2	2.0	24.6	17.7	10.9
1970	325.8	117.6	58.4	59.2	2.0	27.7	17.7	11.8
1971	319.4	118.9	57.0	61.9	2.2	30.3	17.3	12.1
1972	296.0	119.2	57.2	62.0	2.1	30.6	17.0	12.3
1973	299.4	116.5	51.6	64.9	2.3	33.2	16.6	12.8
1974	342.1	114.2	48.3	65.9	2.3	33.0	16.1	14.5
1975	319.8	121.9	54.6	67.3	2.1	34.8	15.9	14.5
1976 <sup>3</sup>	357.4	115.4	50.2	65.2	2.0	36.9	16.2	10.1

<sup>1</sup> Fresh-weight basis. <sup>2</sup> Includes potatoes canned in soups, stews, and other combinations. <sup>3</sup> Preliminary.

off moderately this year. Production is 8 percent below a year earlier. Through much of the Southeast, dry weather during June and July reduced yields. August rains did prevent further crop loss in this area, although some earlier fields in Louisiana received too much rain at that time. In California, Hurricane Doreen, which brought heavy rains to much of the sweet potato growing section of the State, caused some quality loss there. The water shortage in the Central San Joaquin Valley, reduced yields in some fields. However, North Carolina, Virginia, and Texas are the States having the greatest reductions in crop volume this year.

With canners' carryover the smallest since August 1974, there is some incentive to make a larger pack this year. Canners held 1.5 million cases compared to 2.7 million in 1976. As a result of the reduced crop and strong processor demand, canners have been paying North Carolina growers \$2.50 per 50 pounds delivered. This compares with \$1.25 a year earlier.

Pack of canned sweetpotatoes

Season	Million cases 24/303's
1969/70 .....	12.5
1970/71 .....	9.8
1971/72 .....	10.1
1972/73 .....	9.5
1973/74 .....	11.4
1974/75 .....	12.8
1975/76 .....	7.7
1976/77 .....	8.0

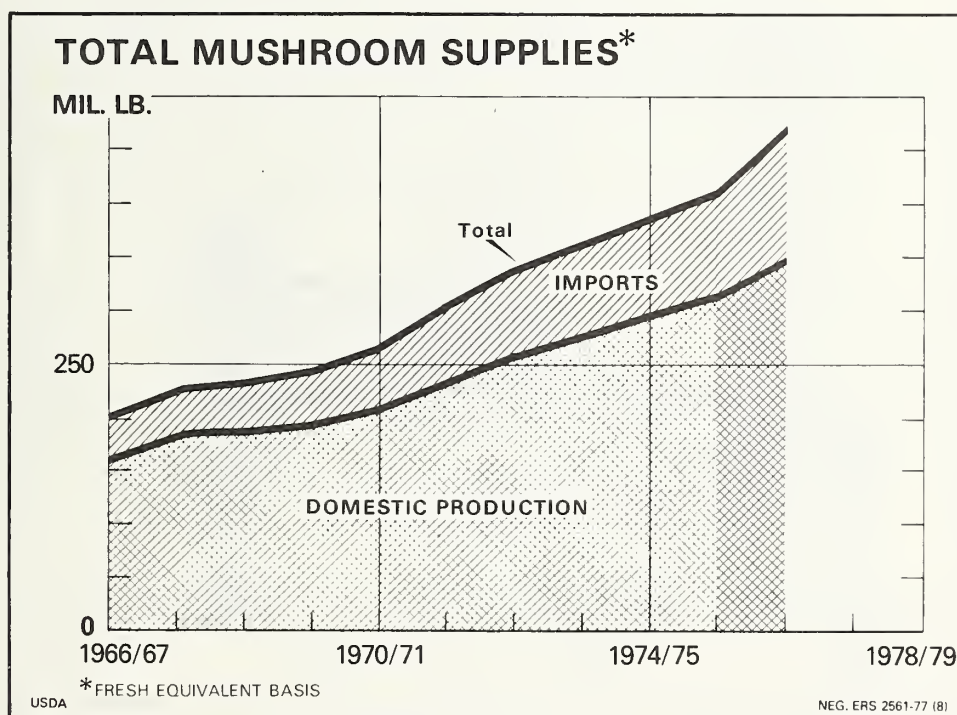
Sharply higher prices are featured on the fresh market, too. Late September quotations for 50-pound crates and cartons range from \$6.70 to \$7.50 at Louisiana and North Carolina points. This is fully \$1.25-\$1.50 more than a year earlier. Prices are expected to remain firm to strong as the storage season progresses.

The Statistical Reporting Service (SRS) grower average price of \$8.34 per cwt. for September is record high for that particular month. Usually prices advance seasonally, thus a season like 1977/78 is likely to mean increased acreage and relatively low prices for the succeeding year.

## MUSHROOMS

U.S. mushroom production set another record in 1976/77—moving up 12 percent over a year earlier to 347 million pounds. Pennsylvania, the leading State, accounted for 199 million pounds or 57 percent of the U.S. total. The U.S. average yield of 2.9 pounds per square foot is the highest yield attained in the years since annual data have been published.

Fresh market sales of mushrooms at 151 million pounds increased less this past season than in other recent seasons. Gains, nonetheless, were 6 percent over a year earlier and fresh use absorbed 44 percent of U.S. output. The average price received by growers reached 82 cents a pound for fresh use, the highest price of record.





Mushroom: Production, use, and value

Season	Output	Processing use	Fresh market use	Farm value
<i>Million pounds</i>				
1969/70 .....	194	132	62	72.7
1970/71 .....	207	149	58	89.6
1971/72 .....	231	165	66	106.9
1972/73 .....	254	177	77	110.0
1973/74 .....	279	177	102	123.4
1974/75 .....	299	173	126	147.2
1975/76 .....	310	168	142	191.1
1976/77 .....	347	196	151	255.7

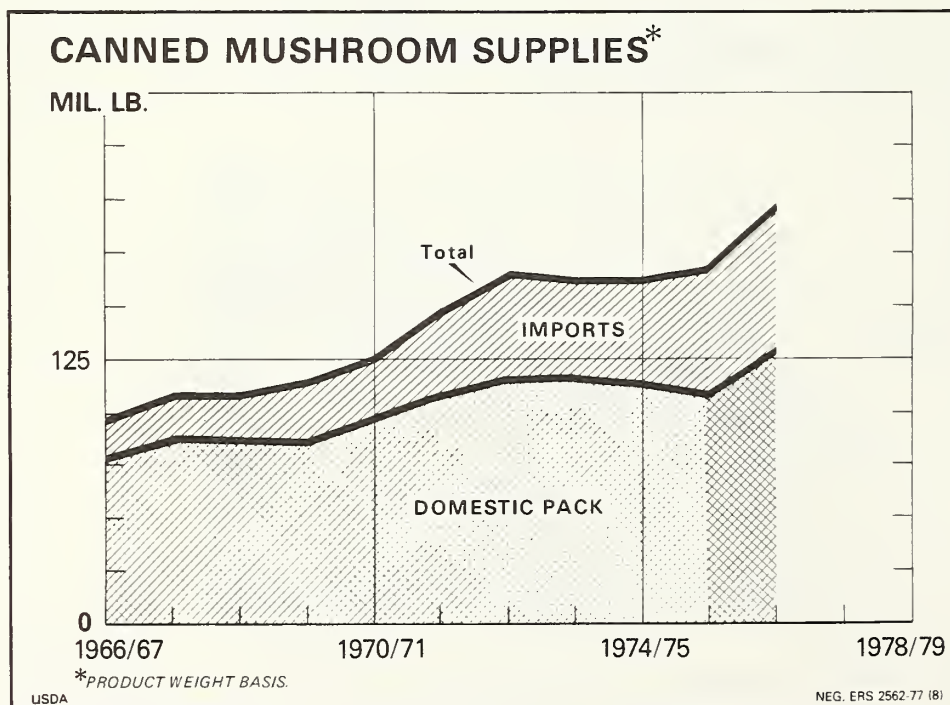
While fresh market use gained during this past season which ended on July 1, domestic processed use rose even more, breaking through the recent industry annual range of 167-177 million pounds. Use in 1976/77 shot up to 196 million pounds, and the average price paid to growers for processing mushrooms moved from 53 cents per pound in 1975/76 to a record of 66.9 cents last season. Processed use in 1976/77 was up 17 percent.

For the first time in several years, domestic canned pack data are available. The International Trade Commission (ITC) recently estimated that 101.5 million pounds of brine-packed mushrooms were packed in the U.S. between July 1, 1976 and

June 30, 1977. The data for 1975/76, when 67 million pounds were reported, are not exactly comparable, but it would appear that the latest pack probably was record large. The available domestic supply was augmented by 10.7 million pounds of carryover stock, and domestic stocks remaining on July 1, 1977 were 22.6 million pounds. This suggests a domestic stock disappearance of 90 million pounds the past season. In addition, 69 million pounds of canned mushroom imports reached this country in the same time span. It is not clear at this time how much of the imports if any, were on hand after July 1. However, the important fact is that imports account for a continually larger share of the total canned supply in the United States.

During 1976/77, SRS noted that a record 196 million pounds of raw mushrooms moved through processors hands in the past season. In contrast with ITC data, this figure also includes mushrooms used in canned soups, plus other processed items. The accompanying chart is based on these data converted to a product weight basis of 127 million pounds domestically packed.

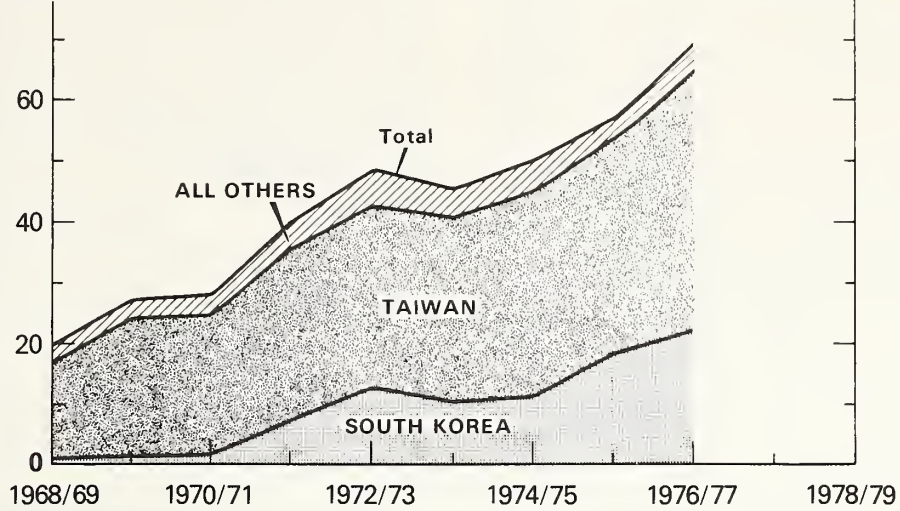
Further gains in mushroom use may be expected during 1977/78 as growers recently stated they intend to increase bedding space by 10 percent, and import activity is expected to be at least reasonably well maintained.





## CANNED MUSHROOM IMPORTS TO USA\*

MIL. LB.



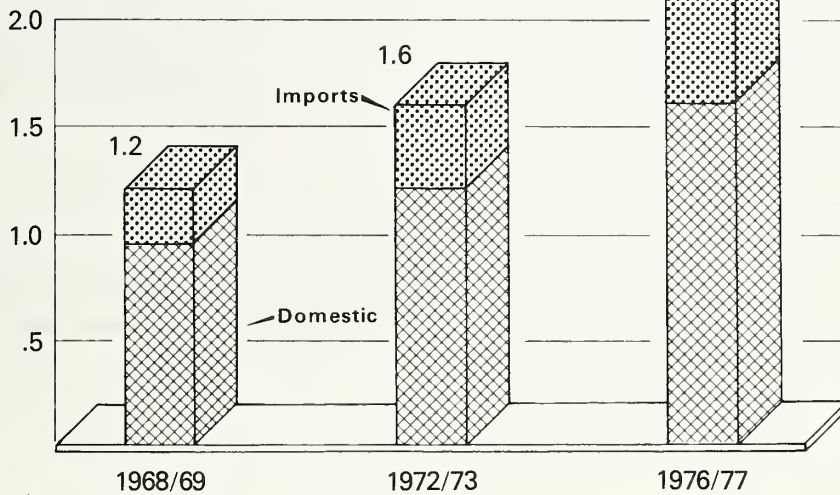
\* PRODUCT WEIGHT BASIS.

USDA

NEG. ERS 2560-77 (8)

## MUSHROOM DISAPPEARANCE PER CAPITA\* - UNITED STATES

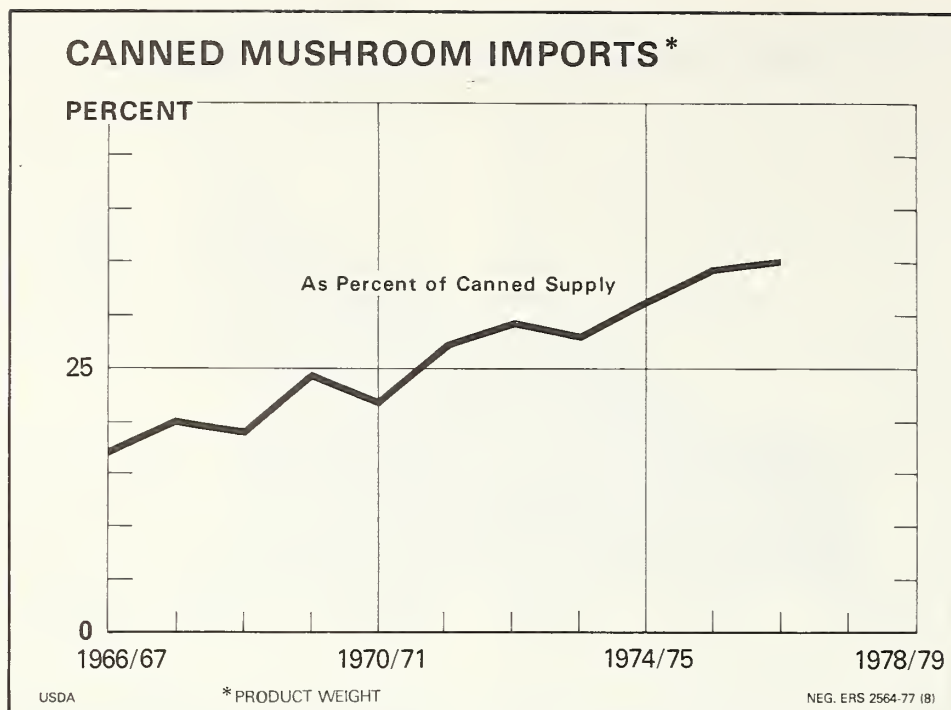
POUNDS



\* FRESH WEIGHT BASIS.

USDA

NEG. ERS 2563-77 (8)



## DRY EDIBLE BEANS

U.S. bean production estimates for this year declined during September. The crop is now estimated at 16.1 million cwt., 7 percent less than last year. Generally speaking, there are likely to be about the same supplies of white beans, but reduced supplies of colored classes. It's largely a question of few more navy beans in Michigan, less great northern from Nebraska, and smaller crops of pintos in the Rocky Mountain States.

Although total supplies of white classes are not changed this year, wet and flooded fields in mid-September in Michigan have reduced prospects that had been near ideal up to that time. Wet weather has damaged the Red River Valley pinto crop as well.

The average price received by growers of dry beans moved erratically upward from its January low this year, but has fallen back moderately since June when the 1976/77 price reached \$17.10. The August price of \$16.40 compares with \$15.50 of a year earlier. The September price of \$13.80 shows no effect of recent rains, which probably will reduce harvest prospects.

Among the major classes, dealer prices for Michigan pea beans slowly but steadily weakened during the summer, dropping from \$20 in June to \$15.50 by late August, as buyers probably were anticipating a large 1977 output. By late Sep-

tember, it became apparent that rains in Michigan would cause at least some crop loss. The actual size of the pea bean crop will be noted in the December Crop Report when production by class is reported for the first time. But by early October, prices had advanced to the \$25.25 level, implying that the trade believes the damage to be moderately severe.

Pinto bean prices, having been in the doldrums much of 1977, also managed to advance to the \$17-18 per cwt. range f.o.b. dealer's platform by late September. Additional concern for 1978 supplies recently boosted prices even higher with \$26-\$28 quoted for Colorado points in mid-October. Rain, which affected the harvest in the Red River Valley of North Dakota, is considered largely responsible. Acreage devoted to this crop through the Rocky Mountain area is less than a year earlier. Pinto bean prices are expected to remain firm or stronger through the 1977/78 sales season.

Red kidney bean prices, which had been holding in the \$21-23 range (dealer's platform) since late February will also probably show some new strength; the extent will depend on 1977 supplies.

Great northern, which enjoyed the best export demand of any class this past market season, have been selling for about \$20-23 per cwt. since June. This has contrasted sharply with the rather depressed navy bean prices of 1977.

Export activity in 1976/77 began in much the same slow fashion which characterized the pre-

vious season. However, activity late in the shipping season has been enough to bring the season total September 1976 through August 1977 to 4.0 million cwt. This compares with 2.7 million a year earlier. It appears that great northern beans will be the best performing export class. Usually navy beans earn this distinction. July sales featured an unusual 111,000 cwt. shipment of pintos to Angola, but there were also the more typical sales, 43,000 cwt. of peabeans to the U.K. and 31,000 cwt. of black turtle soup beans to Venezuela—which helped make for good volume.

Japan appears to have been the best customer in 1976/77 followed by the United Kingdom. The Netherlands, Germany, France, Canada, and Venezuela, each bought at least 200,000 cwt. this past marketing season. For 1977/78 there is the prospect of sales development in the Near East and certain Mediterranean countries. Recent attache' reports note that Spain seems likely to depend more on imports of dry beans than on domestic output. This coming season, Belgium and the Netherlands are likely to be buying a good volume of white beans from the United States although there will be some Ethiopian competition. Exportable supplies of white beans from Argentina are limited until new crop becomes available next spring. The old crop (spring 1977) was small. The Canadian crop of pea beans which competes with Michigan in export markets is expected to be at least a third less than last year's crop. The attache' in Tokyo reports that for the year beginning October 1, import quotas will be smaller in view of increased domestic bean output and a relatively larger quantity expected to be carried over.

In general, export prospects for U.S.-grown white beans appear relatively favorable. As for colored beans, Mexico is expected to be exporting substantial tonnage in 1977/78.

## DRY PEAS

Supplies of dry peas will tighten further this marketing season. Production of only 1.0 million cwt. is the smallest volume ever recorded for this

crop. This compares with 2.2 million cwt. in 1976 and 2.7 in 1975. Hot dry weather at time of bloom and pod set late in June and early July was responsible. Acreage for harvest was up to 165,000 acres from 125,000 a year earlier. The 1977 lentil crop fared even worse. Estimated production of 406,000 cwt. is only 38 percent of last year's volume.

Exports of dry peas were 1.8 million cwt. in crop year 1976/77, down from 2.0 the previous season when total supplies were larger. Lentil exports of 778,000 cwt. followed a similar relationship with the previous year. Exports always account for the majority of sales of both peas and lentils, and, unfortunately, supplies available for 1977/78 are limited.

With a short supply of peas and lentils available for export this year, it is possible that Argentina may be supplying some of our regular customers. A recent attache' report noted that potential lentil plantings of 90,000 hectares (222,000 acres) may be possible. This is sharply larger than last season and if their yields run average, that country will be offering large quantities to world buyers. For dry peas, a 20-percent acreage increase is expected in Argentina, which could result in some increased export activity as well.

Current prices reflect the short U.S. supply. Early October dealer prices for green peas (thresher run f.o.b. warehouse No. 1 grade including storage and handling) were \$16.00 per cwt. against \$11.25 a year earlier. Yellows were bringing \$13.70 against \$11.55 in 1976 (additional supplies of yellows are reported available from Canada). Lentil prices at \$40.00 compared with \$16.45 per cwt. last year.

According to the Pacific Northwest Pea Dealers Association, the domestic use of dry peas in 1976/77 amounted to 656,000 cwt. against 641,000 the previous crop year. Lentil use advanced to 195,000 cwt. Note that these figures are always much smaller than exports, and that domestic use of peas plus exports did exceed 1976 production, thus drawing down stocks. Further drawdown of stocks will be inevitable with the short crop of 1977. Prices may be expected to hold firm to higher as the season progresses.



Table 1—Harvested acreage and production of commercial vegetables for processing

Commodity	Harvested acreage			Production			
	1975	1976	For harvest 1977 <sup>2</sup>	1975	1976	Indicated 1977 <sup>2</sup>	1977 as percentage of 1976
	<i>1,000 acres</i>			<i>1,000 tons</i>		<i>Percent</i>	
Beans, lima .....	76.9	48.0	60.4	96.1	55.8	72.0	129
Beans, snap .....	273.6	236.9	241.5	665.2	587.3	650.6	111
Beets .....	18.1	14.5	16.4	231.1	157.2	244.5	156
Corn, sweet .....	506.2	457.0	457.4	2,380.7	2,195.8	2,460.6	112
Peas, green .....	433.6	384.9	356.0	561.5	490.5	448.8	91
Spinach (winter and spring) .....	20.9	20.3	18.9	146.8	153.0	141.8	93
Tomatoes .....	384.2	309.0	346.2	8,503.8	6,471.8	7,702.8	119
Total with production <sup>1</sup> .....	1,713.4	1,470.7	1,496.6	12,585.2	10,111.4	11,721.0	116
Cabbage for Kraut .....	11.8	11.5	N.A.	239.8	232.4	208.4	90
Cucumbers for pickles .....	138.4	128.5	N.A.	674.2	633.7	N.A.	N.A.
Spinach (fall) .....	2.5	1.7	N.A.	12.4	8.0	N.A.	N.A.
Total 9 vegetables <sup>1</sup> .....	1,866.1	1,612.4	N.A.	13,511.6	10,985.5	N.A.	N.A.

<sup>1</sup> May not add to total due to rounding. n.a.—not available. <sup>2</sup> Contract.

Vegetable Processing, SRS, USDA, issued monthly.

Table 2—Fall potatoes: Production by areas, United States

Year	8 Eastern States	8 Central States	8 <sup>3</sup> Western States	Fall total <sup>1</sup>
	<i>Million cwt.</i>			
1970 .....	65	57	146	268
1971 .....	64	62	140	267
1972 .....	51	55	142	249
1973 .....	49	56	148	254
1974 .....	60	65	163	289
1975 .....	48	54	174	276
1976 .....	51	57	199	307
1977 <sup>2</sup> .....	52	65	187	304

<sup>1</sup> May not add to total due to rounding. <sup>2</sup> Indicated as of October 1. <sup>3</sup> Nine states beginning 1974.

Data from Crop Production, SRS, USDA, annual and monthly reports.



Table 3—Sweetpotatoes: Production by areas, United States

Area	1971	1972	1973	1974	1975	1976 <sup>1</sup>	1977 <sup>2</sup>
	<i>1,000 cwt.</i>						
Central Atlantic <sup>3</sup> . . .	1,447	1,298	1,535	1,509	1,521	1,462	1,219
Lower Atlantic <sup>4</sup> . . .	4,148	4,660	4,385	4,903	5,445	5,548	5,161
Central <sup>5</sup> . . . . .	5,496	5,741	5,686	6,403	5,579	5,585	5,134
California . . . . .	627	754	928	1,106	1,022	1,178	1,170
Total . . . . .	11,718	12,453	12,534	13,921	13,567	13,773	12,684

<sup>1</sup> Preliminary. <sup>2</sup> Indicated. <sup>3</sup> New Jersey, Maryland and Virginia. <sup>4</sup> North Carolina, South Carolina, and Georgia. <sup>5</sup> Tennessee, Alabama, Mississippi, Arkansas, Louisiana, and Texas.

Data from Crop Production, SRS, USDA, annual and monthly reports.

Table 4—Dry edible beans: Production by areas, United States<sup>1</sup>

Year	Michigan	New York	Northwest <sup>2</sup>	Southwest <sup>3</sup>	California	Other	U.S. total <sup>4</sup>
	<i>Million cwt.</i>						
1971 . . . . .	5.6	.8	5.4	2.0	2.1		15.9
1972 . . . . .	7.1	.3	6.4	1.8	2.5		18.1
1973 . . . . .	5.3	.4	6.3	1.6	2.7	.1	16.4
1974 . . . . .	6.9	.5	7.1	1.7	4.0	.1	20.3
1975 . . . . .	4.7	.5	7.4	2.0	2.6	.2	17.4
1976 . . . . .	4.9	.4	7.1	1.9	2.8	.1	17.2
1977 <sup>6</sup> . . . . .	5.2	.5	6.0	1.3	2.9	.1	16.0

<sup>1</sup> Cleaned basis. <sup>2</sup> Minnesota, North Dakota, Nebraska, Montana, Idaho, Wyoming, and Washington. <sup>3</sup> Kansas, Colorado, New Mexico, and Utah. Beginning 1973 New Mexico discontinued. <sup>4</sup> May not add to total due to rounding. <sup>5</sup> Preliminary. <sup>6</sup> Indicated.

Data from Crop Production, SRS, USDA, annual and monthly reports.

Table 5—Average retail price of specified fresh and canned items, by months, 1975 to date

Item and year	Cents											
	Jan.	Feb.	March	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.
<b>FRESH</b>												
Onions (pound)												
1975.....	16.2	15.4	17.1	20.6	27.8	29.2	32.7	38.0	26.7	24.0	23.0	22.7
1976.....	25.2	25.3	23.2	24.1	25.5	24.2	23.0	23.3	21.7	20.8	20.2	21.2
1977.....	21.9	31.0	33.2	42.3	40.0	32.1	30.6	27.8	23.5			
Cabbage (pound)												
1975.....	16.9	17.2	17.2	17.2	16.9	19.2	17.2	15.0	15.5	15.7	16.0	16.0
1976.....	18.7	18.2	16.7	16.4	15.9	15.7	14.7	14.6	14.2	15.0	15.3	20.2
1977.....	23.8	41.8	37.8	35.1	29.2	20.6	16.5	15.5	15.0			
Celery (pound)												
1975.....	23.9	23.6	23.1	23.5	25.0	26.5	28.6	26.6	25.6	26.9	33.8	31.8
1976.....	39.1	36.6	31.0	27.2	30.5	30.0	29.3	29.1	26.4	27.5	28.3	39.5
1977.....	33.9	43.0	43.8	34.4	35.6	34.3	32.2	30.9	28.5			
Lettuce (head)												
1975.....	39.5	48.5	40.3	38.0	39.2	42.0	37.5	39.5	42.3	40.6	46.4	43.8
1976.....	43.7	39.2	38.2	40.7	44.9	40.7	41.7	57.0	53.9	70.1	59.0	43.3
1977.....	46.8	48.4	43.2	46.6	41.4	45.4	44.0	43.6	51.6			
Tomatoes (pound)												
1975.....	60.0	61.9	62.0	56.8	55.1	66.6	81.3	48.1	45.6	46.1	49.2	61.2
1976.....	60.5	54.2	57.4	66.2	60.3	52.6	62.2	46.4	47.4	59.5	61.7	65.0
1977.....	62.4	82.6	70.9	90.0	77.3	57.6	54.5	64.7	58.4			
<b>CANNED</b>												
Peas (No. 303 can)												
1975.....	38.7	39.2	39.3	39.4	39.4	39.2	39.7	39.2	39.2	39.2	38.7	38.8
1976.....	38.6	38.6	38.4	38.4	38.4	37.9	38.2	38.7	38.8	38.9	39.2	39.2
1977.....	38.0	38.4	38.3	38.1	38.4	38.8	38.7	38.4	38.4			
Tomatoes (No. 303 can)												
1975.....	34.3	34.6	34.9	35.3	35.4	35.4	35.5	35.5	35.5	35.6	35.6	35.9
1976.....	35.5	35.1	35.1	35.0	34.9	34.4	34.8	34.9	35.0	35.3	35.1	35.9
1977.....	35.9	36.3	36.7	37.1	37.7	38.3	38.1	38.3	38.3			
<b>POTATOES</b>												
Tablestock (10 lbs.)												
1975.....	112.7	111.1	104.2	100.3	112.0	135.0	199.3	178.7	136.5	142.5	141.9	138.9
1976.....	139.4	156.2	154.1	159.8	166.0	177.1	162.0	146.7	127.5	119.7	119.9	122.4
1977.....	120.9	142.0	144.8	148.2	166.5	197.4	186.1	161.6	136.2			
Frozen French Fries												
(9 oz. pkg.)												
1975.....	25.8	25.9	25.8	25.7	25.3	25.1	25.1	25.3	25.4	25.7	26.0	26.6
1976.....	27.0	27.1	26.9	27.4	27.4	27.5	27.4	27.7	27.8	27.8	27.9	27.7
1977.....	27.6	27.2	27.6	28.0	27.7	27.9	27.7	27.8	28.4			
Inst. Mashed (7 oz. pkg.)												
1975.....	55.8	55.9	55.7	56.2	55.9	55.9	55.7	55.7	55.3	55.2	55.4	55.3
1976.....	55.8	56.2	55.6	56.3	56.6	56.9	57.0	57.0	57.2	57.3	57.4	57.2
1977.....	56.9	56.9	57.1	57.1	57.3	57.2	57.2	57.8	57.9			

Retail prices, Bureau of Labor Statistics, U.S. Department of Labor.

Table 6—Vegetables and melons for fresh market: Commercial acreage and production of principal crops, selected seasons, 1975, 1976, and indicated 1977

Seasonal group and crop	Acreage for harvest				Production			
	1975	1976	1977		1975	1976	1977	
			Indi- cated	Percent- age of 1976			Indi- cated <sup>1</sup>	Percent- age of 1976
	<i>1,000 acres</i>		<i>Percent</i>		<i>1,000 cwt.</i>		<i>Percent</i>	
Winter .....	172.6	181.5	151.2	83	33.7	34.1	29.7	87
Spring .....	336.3	367.5	391.2	106	53.3	58.9	60.7	103
Summer .....	569.2	496.8	483.8	97	74.9	64.3	64.6	100
Fall: <sup>2</sup>								
Beans, snap .....	16.9	16.4	17.7	108	.7	.7	.7	100
Broccoli <sup>3</sup> .....	14.2	15.9	16.4	103	1.0	1.2	1.2	100
Cabbage <sup>3</sup> .....	28.4	27.8	28.5	102	7.7	7.3	7.6	104
Cantaloups .....	2.9	4.4	4.0	91	.3	.5	.4	80
Carrots <sup>3</sup> .....	23.2	19.7	22.7	115	7.1	6.1	7.3	120
Cauliflower <sup>3</sup> .....	15.6	13.0	12.4	95	1.6	1.2	1.3	108
Celery <sup>3</sup> .....	8.0	9.5	9.2	97	4.1	5.0	4.8	96
Corn, sweet .....	15.3	15.9	16.0	101	1.0	1.3	1.2	92
Cucumbers .....	14.4	14.2	15.4	108	1.3	1.2	1.4	117
Eggplant .....	.8	.8	.9	112	.2	.2	.2	100
Escarole .....	1.7	1.8	1.6	89	.2	.2	.2	100
Honeydew melons .....	.9	1.2	.9	75	.2	.2	.2	100
Lettuce .....	55.4	57.0	59.4	104	12.7	12.8	13.3	104
Peppers, green <sup>3</sup> .....	12.3	12.4	14.0	113	1.5	1.4	1.8	129
Spinach .....	2.8	2.3	2.0	87	.1	.1	.1	100
Tomatoes .....	22.8	21.2	24.1	114	4.9	4.8	5.2	108
Total fall to date <sup>4</sup> .....	235.6	233.3	244.5	105	44.5	44.3	46.9	106
Total acreage and production reported to date <sup>4</sup> .....	1,313.6	1,279.2	1,270.6	99	206.5	201.7	201.9	100

<sup>1</sup> Based on average yield per acre. <sup>2</sup> October, November, and December. <sup>3</sup> Includes fresh market and processing. <sup>4</sup> May not add due to rounding.

Vegetables-Fresh Market, SRS, USDA, issued monthly.

Table 7—Vegetables, fresh: Representative prices (wholesale lots) at New York and Chicago for stock of generally good quality and condition (U.S. No. 1 when available), indicated periods 1976 and 1977

Market and commodity	State of origin	Unit	Tuesday			
			1976		1977	
			Sept. 14	Oct. 5	Sept. 13	Oct. 5
			Dollars			
New York						
Beans, snap, green						
round green .....	New Jersey	Bu. bskt.	8.25	10.50	6.50	8.25
Broccoli .....	California	14's, crt.	8.25	8.50	7.25	6.75
Cabbage, domestic						
round type .....	New Jersey	Various crates	2.50	2.62	3.12	3.25
Cantaloups .....	California	Jumbo crt. 36's	16.50	19.00	15.50	17.00
Carrots, topped						
washed .....	California	48 1-lb. film bag, ctn.	8.75	10.00	8.50	8.50
Cauliflower .....	Long Island	Crt. 12's	6.00	7.50	---	---
Celery, Pascal .....	New York	2-3 doz.	---	6.00	---	---
Celery, Pascal .....	California	2-3 doz.	9.00	8.00	7.50	7.25
Corn, sweet .....	New York	5 doz. crate	5.25	4.50	3.25	3.25
Cucumbers .....	Virginia	Bu. bskt.	---	6.00	---	---
Lettuce, Iceberg .....	California	2 doz. cnt.	12.50	17.50	8.75	9.50
Onions, yellow Spanish						
large .....	Idaho—Oregon	50 lb. sack	4.15	4.15	---	5.00
Onions, yellow globe						
medium .....	New York	50 lb. sack	3.25	4.00	2.62	4.00
Spinach, savory .....	New Jersey	Bu. bskt.	---	5.75	---	6.50
Chicago						
Beans, snap, green						
round green .....	Illinois	Bu. hamper	6.25	7.50	6.25	10.00
Broccoli .....	California	14's crt.	7.25	6.88	7.25	7.10
Cabbage, domestic						
round type .....	Illinois	Various crates	2.50	2.38	3.35	---
Cantaloups .....	California	Jumbo crt., 36's	15.00	18.00	11.75	---
Cauliflower .....	California	Ctns., film wrpd., 12's	8.25	7.50	8.25	8.25
Celery, Pascal .....	Michigan	2-4 doz.	7.00	6.00	6.40	6.25
Cucumbers .....	Illinois	Bu. bskt.	10.00	8.25	7.00	6.75
Green Peppers .....	Illinois	Bu. bskt., lge.	6.25	---	7.00	---
Honeydews .....	California	Crts., 5-8's	6.50	4.25	4.15	4.50
Lettuce, Iceberg .....	California	2 doz. ctn.	11.25	13.25	7.00	9.45
Onions, yellow Spanish						
large .....	Idaho—Oregon	50 lb. sack	3.85	3.88	4.60	4.85
Onions, yellow globe						
medium .....	Midwestern	50 lb. sack	4.25	4.00	---	---
Spinach, flat type .....	Illinois	Bu. bskt.	4.00	---	---	---
Tomatoes, green, ripe						
and turning, med-lge. ....	California	2 lyr. Lug	---	---	---	---

Weekly Summary of terminal Market Prices, AMS., USDA.

Market News Reports.



Table 8—Vegetables, commercial for fresh market: Index numbers (unadjusted) of prices received by farmers, United States by months, 1962 to date<sup>1</sup>

(1967=100)

Period	Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.	Average
1962 .....	94	102	125	109	107	84	73	63	64	66	75	85	87
1963 .....	102	95	82	83	78	88	85	65	62	70	91	94	83
1964 .....	100	103	98	89	83	90	80	76	76	78	101	87	88
1965 .....	78	83	97	107	127	103	84	77	78	87	89	87	91
1966 .....	110	115	101	108	94	99	115	102	91	92	101	95	102
1967 .....	100	94	96	110	104	128	109	84	80	88	101	104	100
1968 .....	119	117	125	129	105	98	92	86	92	91	113	118	107
1969 .....	104	109	113	110	118	97	97	94	90	111	151	130	110
1970 .....	130	123	123	109	121	110	101	96	111	95	102	95	110
1971 .....	111	116	149	135	126	127	119	101	99	121	172	138	126
1972 .....	155	131	115	134	122	123	116	125	129	112	147	139	129
1973 .....	155	154	170	200	190	190	179	131	125	122	127	129	156
1974 .....	136	162	131	151	170	171	151	140	140	163	167	146	152
1975 .....	169	169	166	177	169	204	178	157	159	159	174	189	173
1976 .....	191	163	179	177	130	156	169	153	177	191	189	172	170
1977 <sup>2</sup> .....	235	267	270	199	185	159	167	162	167				

<sup>1</sup> All prices reported on f.o.b. basis. <sup>2</sup> Preliminary.

Table 9—Canned vegetables: Commercial packs 1975 and 1976 and canners' and wholesale distributors' stocks 1976 and 1977 by commodities, United States

Commodity	Pack		Stocks					
	1975	1976	Canners			Wholesale distributors <sup>1</sup>		
			Date	1976	1977	Date	1976	1977
	1,000 cases 24/303's							
Major commodities								
Beans, snap .....	55,390	47,421	July 1	13,567	5,695	July 1	4,102	3,554
Beets .....	13,394	9,164	July 1	5,062	2,585	July 1	1,119	1,012
Corn, sweet .....	57,458	54,694	July 1	9,717	9,675	July 1	4,002	3,933
Peas, green .....	35,172	31,927	June 1	8,380	7,737	June 1	2,919	2,821
Sauerkraut .....	12,890	12,547	Aug. 1	3,048	2,932	July 1	668	655
Total .....	174,304	155,753		39,774	28,624		12,810	11,975
Tomato items								
Tomatoes .....	53,465	42,614	July 1	12,019	9,431	July 1	4,201	4,521
Tomato juice .....	35,358	32,154	July 1	6,587	8,795	July 1	2,322	2,292
Total .....	88,823	74,768		18,606	18,226		6,523	6,813
Other commodities								
Asparagus .....	3,551	3,609	Mar. 1	1,147	308	Apr. 1	464	291
Beans, lima .....	3,729	2,812	Aug. 1	963	654	July 1	413	N.A.
Field peas .....	1,995	1,875					413	N.A.
Carrots .....	5,035	5,327	July 1	2,636	1,771	July 1	659	686
Okra <sup>3</sup> .....	428	367						
Pickles .....	75,516	70,972						
Pimentos .....	613	702						
Pumpkin and squash .	5,805	5,500	July 1	1,024	2,588	July 1	672	515
Potatoes .....	6,809	6,201						
Sweetpotatoes .....	7,668	7,960						
Spinach .....	8,328	6,304	Mar. 1	4,236	2,818	Apr. 1	685	389
Other greens .....	3,022	3,125						
Total comparable other items .....	122,499	114,754		10,006	8,139		2,893	1,881
Grand total comparable items ...	385,626	345,275		68,386	54,989		22,226	20,669

<sup>1</sup> Converted from actual cases to standard cases of 24 No. 303 cans. <sup>2</sup> Includes combination vegetable juices containing at least 70 percent tomato juice. <sup>3</sup> Okra, okra and tomatoes, and okra, corn, and tomatoes. N.A.—not available.

Canners' stock and pack data from the National Canners' Association, pickles and sauerkraut pack SRS derived, sauerkraut stocks National Kraut Packers Assoc. derived. Wholesale distributors' stock from the Bureau of Census.

Table 10—Vegetables, frozen: United States commercial packs 1975 and 1976, and cold storage holdings, September 1, 1977 with comparisons

Commodity	Packs		Cold storage holdings		
	1975	1976	September 1, 1975	September 1, 1976	September 1, 1977 <sup>1</sup>
<i>Million pounds</i>					
Asparagus .....	18.4	23.8	16.8	17.2	16.8
Beans, lima:					
Baby .....	85.7	43.8	42.3	42.6	20.3
Fordhook .....	50.2	25.0	18.4	26.4	13.3
Total .....	135.9	68.8	60.7	69.0	33.6
Beans, snap:					
Regular cut .....	144.3	114.4	169.6	122.9	108.8
French cut .....	59.0	60.0	55.8	50.9	57.3
Wax .....	6.8	7.0	n.a.	n.a.	n.a.
Total .....	210.1	181.4	225.4	173.8	166.1
Broccoli .....	191.6	201.5	91.6	70.4	100.2
Brussels sprouts .....	54.4	44.8	19.4	17.8	5.4
Carrots .....	165.9	181.3	81.4	56.1	47.4
Cauliflower .....	76.1	67.8	41.6	32.3	20.5
Corn, cut .....	288.1	282.4	130.8	133.2	146.3
Corn-on-cob .....	183.4	187.6	39.7	56.9	90.3
Mixed vegetables .....	<sup>2</sup> 147.2	<sup>2</sup> 119.6	34.7	33.3	29.0
Onions .....	121.1	149.0	21.1	26.0	24.2
Peas .....	400.6	340.4	398.4	285.6	352.1
Peas and carrots .....	<sup>2</sup> 33.6	<sup>2</sup> 27.4	11.9	11.5	10.8
Pumpkin and squash .....	29.8	22.2 <sup>1</sup>	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
Rhubarb .....	6.0	8.2	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
Southern greens .....	62.5	68.5	25.0	32.4	25.6
Spinach .....	129.4	160.2	94.0	101.8	93.8
Succotash .....	<sup>2</sup> 7.7	<sup>2</sup> 6.4	( <sup>3</sup> )	( <sup>3</sup> )	( <sup>3</sup> )
Okra .....	28.0	27.5	35.3	31.4	38.7
Peas, blackeye .....	21.7	31.4	12.5	10.7	11.1
Miscellaneous vegetables .....	68.4	90.2	167.0	162.0	152.5
Total <sup>4</sup> .....	2,212.0	2,156.0	1,507.2	1,421.3	1,364.4
French Fried Potatoes .....	2,633.0	2,876.0	438.6	413.5	483.1
Other Frozen Potatoes .....	368.0	459.0	97.6	95.2	91.9
Total Frozen Potatoes .....	3,001.0	3,335.0	536.2	508.7	575.0
Grand total .....	5,213.0	5,491.0	2,043.3	1,930.0	1,939.4

<sup>1</sup> Preliminary. <sup>2</sup> Considered as repacks and not included in total. <sup>3</sup> Included in miscellaneous vegetables. <sup>4</sup> May not add due to rounding.

N.A.—not available. Pack data from American Frozen Food Institute. Stocks from Cold Storage Report, SRS, USDA, issued monthly.

Table 11—Vegetables, fresh: Average prices received by farmers, per hundredweight, United States, September 15, 1977 with comparisons

Commodity	1976		1977		
	August	September	July	August	September 1-15
	<i>Dollars</i>				
Beans, snap . . . . .	21.10	20.00	20.30	22.60	21.00
Broccoli . . . . .	21.50	20.30	---	---	---
Cabbage . . . . .	4.95	5.05	4.29	4.74	4.91
Cantaloups . . . . .	9.58	10.00	11.20	9.36	8.74
Carrots . . . . .	8.31	9.51	8.61	9.66	10.40
Cauliflower . . . . .	25.00	21.20	---	---	---
Celery . . . . .	6.25	7.57	7.58	6.84	7.17
Corn, sweet . . . . .	7.44	8.08	7.63	6.58	6.57
Cucumbers . . . . .	7.74	12.10	11.20	11.60	10.20
Lettuce . . . . .	9.45	13.10	6.14	7.03	8.43
Onions . . . . .	5.38	5.73	8.18	7.36	6.65
Peppers, green . . . . .	13.40	11.30	16.00	15.00	13.60
Spinach . . . . .	19.20	21.00	---	---	---
Tomatoes . . . . .	18.40	15.60	23.00	20.90	20.90
Watermelons . . . . .	3.31	2.75	3.38	3.42	3.71

Agricultural Prices, SRS, USDA, issued monthly.



Table 12—Fresh and Processed Vegetables: Retail price, marketing margin, and farm value per unit, sold in New York City, indicated months, 1976 and 1977

Commodity, month, and retail unit	Retail price	Marketing margin		Farm value <sup>1 2</sup>	
		Absolute	Percentage of retail value	Absolute	Percentage of retail value
	<i>Cents</i>		<i>Percent</i>	<i>Cents</i>	<i>Percent</i>
<b>Fresh:</b>					
Carrots (Pound)					
July 1977 .....	30.6	22.0	72	8.6	28
June 1977 .....	31.9	22.9	72	9.0	28
July 1976 .....	28.6	19.1	67	9.5	33
Celery (Pound)					
July 1977 .....	34.7	27.9	79	7.3	21
June 1977 .....	36.8	29.7	81	7.1	19
July 1976 .....	31.0	24.5	79	6.5	21
Lettuce (Head)					
July 1977 .....	52.3	42.9	82	9.4	18
June 1977 .....	53.7	43.6	81	10.1	19
July 1976 .....	47.0	35.4	85	11.6	25
Onions, dry yellow (Pound)					
July 1977 .....	34.1	26.7	78	7.4	22
June 1977 .....	34.1	25.6	75	8.5	25
July 1976 .....	25.0	20.4	82	4.6	18
<b>Processed:<sup>3</sup></b>					
Beets, sliced, canned (303 can)					
June 1977 .....	35.5	33.4	94	2.1	6
March 1977 .....	33.8	31.0	94	2.1	6
June 1976 .....	32.5	30.2	93	2.3	7
Potatoes, F.F., Frozen (9 oz. pkg.)					
July 1977 .....	28.3	23.8	84	4.5	16
Apr. 1977 .....	26.4	21.9	83	4.5	17
July 1976 .....	27.5	21.8	79	5.7	21
Sauerkraut, canned (303 can)					
June 1977 .....	31.8	29.4	92	2.4	8
March 1977 .....	32.3	29.9	93	2.4	7
June 1976 .....	32.4	30.0	93	2.4	7
Tomatoes, canned (303 can)					
July 1977 .....	39.6	34.8	88	4.8	12
Apr. 1977 .....	40.7	35.9	88	4.8	12
July 1976 .....	38.3	33.0	86	5.3	14

<sup>1</sup> For quantity of product equivalent to retail unit sold to consumers: Because of waste and spoilage during marketing, equivalent quantity exceeds retail unit. Fresh: F.o.b. shipping point price, Processed: Equivalent packing housedoor returns.

<sup>2</sup> Production areas: Carrots-California, Celery-California,

Lettuce-California, Onions-Texas, Canned Beets-New York, Frozen F.F. Potatoes-Idaho, Maine, and Washington, Canned Sauerkraut-New York, Canned Tomatoes-Eastern States. <sup>3</sup> Priced quarterly. \* Revised.

Table 13—Potatoes, Irish: Acreage, yield per acre, and production, annual 1975, 1976, and indicated 1977

Season group	Acreage			Yield per acre			Production		
	Harvested		For harvest 1977	1975	1976 <sup>1</sup>	Indicated 1977	1975	1976 <sup>1</sup>	Indicated 1977
	1975	1976 <sup>1</sup>							
	1,000 acres			cwt.			1,000 cwt.		
Winter . . . . .	14.3	14.4	13.4	202	207	179	2,887	2,984	2,393
Spring . . . . .	84.5	99.0	91.3	237	250	245	19,994	24,779	22,347
Summer . . . . .	115.7	120.1	116.5	181	189	191	20,898	22,688	22,242
Fall . . . . .									
8 Eastern . . . . .	209.7	199.5	207.9	231	254	248	48,394	50,647	51,618
8 Central . . . . .	270.9	300.1	321.1	200	191	201	54,097	57,284	64,638
9 Western . . . . .	566.7	641.3	612.1	306	325	306	173,564	198,975	187,350
Total . . . . .	1,047.3	1,140.9	1,141.1	264	269	266	276,055	306,906	303,606
United States . . . . .	1,261.8	1,374.4	1,362.3	253	260	257	319,834	357,357	350,588

<sup>1</sup> Revised.

Crop production, SRS, USDA, issued monthly.

Table 14—Potatoes: Prices f.o.b. shipping points, per hundredweight, U.S. No. 1 grade or better, indicated periods, 1976 and 1977

Shipping point and variety	1976			1977		
	August 14	September 11	October 16	August 13	September 10	October 15
	<i>Dollars</i>					
New Jersey Round whites .....	4.53	3.75	4.25	3.75	3.85	4.23
Long Island, N.Y., Round whites .....	---	3.92	4.25	2.05	3.82	4.36
Michigan Round whites .....	4.08	---	3.52	3.84	3.72	---
Minnesota Reds .....	3.58	2.31	3.84	2.75	3.25	3.93
Colorado Reds .....	4.50	4.00	4.25	4.30	4.38	5.00
Washington Norgolds .....	4.88	4.25	4.13	---	---	---
Washington Russets .....	---	---	7.00	---	---	10.08

F.O.B. prices are simple averages of the range of daily prices for the week ended on indicated date. Compiled from Market News Service reports.

Table 15—Potatoes: U.S. average price received by farmers, per hundredweight, indicated periods, 1976 and 1977

	1976			1977		
	July	August	September	July	August	September
	<i>Dollars</i>					
U.S. farm price .....	4.36	3.87	3.21	5.14	4.56	3.49
Parity price .....	5.68	5.62	5.61	5.78	5.76	5.75
	<i>Percent</i>					
Price as percent of parity .....	77	69	57	89	79	61

Agricultural Prices, SRS, USDA, issued monthly.

Table 16—Sweetpotatoes: Acreage, yield per acre, and production  
annual 1975, 1976, and indicated 1977

	Acreage			Yield per acre			Production		
	Harvested		For harvest 1977	1975	1976	Indi- cated 1977	1975	1976	Indi- cated 1977
	1975	1976							
	1,000 acres			cwt.			1,000 cwt.		
Central Atlantic <sup>1</sup> . . . . .	10.6	10.6	9.8	143	138	124	1,521	1,462	1,219
Lower Atlantic <sup>2</sup> . . . . .	40.8	43.0	42.8	133	129	121	5,445	5,548	5,161
Central <sup>3</sup> . . . . .	59.8	58.4	55.2	93	96	93	5,579	5,585	5,134
California . . . . .	7.3	7.6	7.8	140	155	150	1,022	1,178	1,170
United States . . . . .	118.5	119.6	115.6	114	115	110	13,567	13,773	12,684

<sup>1</sup> New Jersey, Maryland, and Virginia. <sup>2</sup> North Carolina, South Carolina, and Georgia. <sup>3</sup> Tennessee, Alabama, Mississippi, Arkansas, Louisiana, and Texas.

Crop Production, SRS, USDA, issued monthly.

Table 17—Sweetpotatoes: Prices f.o.b. shipping points and wholesale price (wholesale lots) at New York and Chicago, indicated periods 1976 and 1977

Item	State	Unit	Week ended			
			1976		1977	
			Sept. 11	Oct. 9	Sept. 10	Oct. 8
F.o.b. shipping points			<i>Dollars</i>			
Porto Rico type, uncured .....	Eastern North Carolina points	U.S. no. 1 50 lb. crt.	---	---	---	---
Porto Rico type, uncured .....	Southern Louisiana points	U.S. no. 1 50 lb. crt.	5.70	5.38	7.69	7.15
Porto Rico type, Garnet .....	Stockton, California	40 lb. ctn.	8.50	7.10	---	8.40
			<i>Tuesday</i>			
			1976		1977	
			Sept. 14	Oct. 5	Sept. 1	Oct. 4
			<i>Dollars</i>			
Terminal markets						
New York						
Porto Rico, uncured .....	North Carolina	50 lb. ctn.	6.75	6.50	8.25	7.25
Chicago						
Porto Rico, uncured .....	Louisiana	50 lb. ctn.	7.50	7.25	---	8.50

F.o.b. prices are simple averages of the range of daily prices, compiled from Market News Service reports. The market prices are representative prices for Tuesday of each week and are

submitted by the Market News Service representative at each market.

Table 18—U.S. average price per hundredweight received by farmers for sweetpotatoes, dry edible beans, and dry field peas, indicated periods, 1976 and 1977

Commodity	1976			1977		
	July	August	September	July	August	September
	<i>Dollars</i>					
Field crops:						
Sweetpotatoes . . . . .	10.20	8.02	5.94	10.90	11.10	8.34
Beans, dry edible . . . . .	16.30	15.50	15.20	16.50	16.40	13.80
Peas, dry field . . . . .	10.30	11.30	12.30	11.60	18.40	17.10

Agricultural Price, SRS, USDA, issued monthly.



Table 19—Dry edible beans: Supply and disposition<sup>1</sup>

Marketing season beginning September 1	Supplies				Utilization			
	Beginning stocks Sept.	Production	Imports <sup>2</sup>	Total	Domestic disappear- ance	Exports <sup>3</sup>	Total disappear- ance	Ending stocks Aug. 31
<i>Million cwt.</i>								
Average								
1955-59 .....	1.6	17.5	.1	19.2	14.9	3.1	18.0	1.2
1960-64 .....	1.6	18.5	.1	20.2	15.7	2.7	18.6	1.6
1965 .....	1.2	16.5	.1	17.8	14.2	2.4	16.6	1.2
1966 .....	1.2	20.0	.1	21.3	15.3	3.8	19.1	2.2
1967 .....	2.2	15.2	.1	17.5	14.4	2.0	16.4	1.1
1968 .....	1.1	17.4	.1	18.6	14.4	2.7	17.1	1.5
1969 .....	1.5	18.9	.1	20.5	14.5	4.3	18.8	1.7
1970 .....	1.7	17.4	.1	19.2	14.2	3.3	17.5	1.7
1971 .....	1.7	15.9	.1	17.7	13.8	2.8	16.6	1.1
1972 .....	1.1	18.1	.2	19.4	14.0	3.9	17.9	1.5
1973 .....	1.5	16.4	.7	18.6	14.0	3.3	17.3	1.3
1974 .....	1.3	20.3	.1	21.7	14.5	5.1	19.6	2.1
1975 .....	2.1	17.4	.3	19.8	14.4	2.7	17.1	2.7
1976 .....	2.7	17.2	.2	20.1	14.6	4.0	18.6	1.9
1977 <sup>4</sup> .....	1.9	17.1	.2	19.2				

<sup>1</sup> Source: SRS, Bureau of the Census. <sup>2</sup> Imports include Garbanzos and all beans for seed purposes but exclude Mung Beans. <sup>3</sup> Exports include Garbanzos, baked beans, all beans for seed purposes and donations to welfare agencies for foreign relief. <sup>4</sup> Preliminary.

Table 20—Beans, dry edible: Acreage, yield per acre, and production, annual 1975, 1976, and indicated 1977

Group, State and classes	Acreage			Yield per acre			Production <sup>1</sup>		
	Harvested		For harvest 1977	1975	1976	Indi- cated 1977	1975	1976	Indi- cated 1977
	1975	1976							
	1,000 acres			Pounds			1,000 cwt.		
Michigan .....	520	525	500	900	930	1,050	4,680	4,883	5,250
New York .....	47	40	40	1,130	1,070	1,170	531	428	468
Northwest <sup>3</sup> .....	506	523	412	1,464	1,364	1,458	7,410	7,134	6,009
Southwest <sup>4</sup> .....	228	210	154	884	889	862	2,015	1,866	1,327
California:									
Large lima .....	24	35	31	1,700	1,490	1,850	408	522	574
Baby lima .....	20	21	22	2,080	1,800	2,000	416	378	440
Other .....	110	123	111	1,610	1,545	1,705	1,782	1,900	1,893
Total California .....	154	179	164	1,692	1,564	1,773	2,606	2,800	2,907
Other States .....	12	8	6	1,488	1,346	1,655	180	105	96
United States <sup>5</sup> .....	1,467	1,485	1,275	1,188	1,159	1,259	17,422	17,216	16,057

<sup>1</sup> Includes beans grown for seed. <sup>2</sup> Cleaned basis. <sup>3</sup> Nebraska, Montana, Idaho, Wyoming, Washington, Minnesota, and North Dakota. <sup>4</sup> Kansas, Colorado, and Utah. <sup>5</sup> May not add due to rounding.

Crop Production, SRS, USDA, issued monthly.

Table 21—Peas, dry field: Acreage, yield per acre, and production, annual 1975, 1976, and indicated 1977<sup>1</sup>

State	Acreage			Yield per acre			Production		
	Harvested		For harvest 1977	1975	1976	Indi- cated 1977	1975	1976	Indi- cated 1977
	1975	1976							
	1,000 acres			Pounds			1,000 cwt.		
Idaho . . . . .	69.0	48.0	67.0	1,390	1,720	650	959	826	436
Washington . . . . .	117.0	77.0	98.0	1,485	1,720	550	1,737	1,324	539
Oregon <sup>3</sup> . . . . .	2.5	---	---	1,400	---	---	35	---	---
United States . . . . .	188.5	125.0	165.0	1,449	1,720	591	2,731	2,150	975

<sup>1</sup> In principal commercial producing States. Includes peas grown for seed and cannery peas harvested dry. <sup>2</sup> Cleaned basis.

<sup>3</sup> Estimates discontinued beginning 1975.

Crop Production, SRS, USDA, issued monthly.

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## WHOLESALE PRICE-QUANTITY RELATIONSHIPS FOR WINTER SEASON FRESH CUCUMBERS

by G. Zepp and E. Smith<sup>1</sup>

**ABSTRACT:** Several factors are important in determining the price of winter season fresh cucumbers. Most important seems to be quantity of cucumbers marketed, price of fresh market tomatoes, and month of the year. A 10-percent change in the quantity of cucumbers causes the cucumber price to change an estimated 7.66 percent in the opposite direction, while a 10-percent change in tomato prices results in a 2.66-percent cucumber price change in the same direction. Prices for a given amount of cucumbers tend to be higher during the warmer spring months than during the midwinter months. Per capita disposable income, lettuce price, and total population do not seem to be important factors in explaining changes in cucumber prices.

**KEYWORDS:** Cucumber, Demand, Price-Quantity Relationships.

Estimating vegetable prices associated with different levels of supply poses a challenge to the economist and has practical implications for the industry as well. The purpose of this article is to report results of an investigation of factors determining prices of winter season fresh cucumbers.

The winter season runs from November through May and corresponds roughly to the Florida marketing season. Cucumbers are shipped to the U.S. market from five major producing areas during this period (table 1). Florida and Mexico are the major shippers. Texas and California supply some cucumbers at the beginning and at the end of the season. South Carolina is an important shipper in May. Some fresh cucumbers are supplied by minor production areas, but generally these are not reported in the production statistics.

Many factors (variables) may contribute to determining cucumber prices. The following were examined as possibly being important: (1) quantity of cucumbers marketed, (2) month of the year, (3) prices of fresh tomatoes, (4) prices of lettuce, (5) total U.S. population, and (6) per capita disposable income. Quantity of cucumbers marketed is probably the most obvious contributor to the level

of cucumber prices. Month of the year may be an additional contributor to cucumber prices. Fresh cucumbers, being primarily a salad vegetable, may be more in demand during the warmer months than during midwinter.

Another factor, which sometimes contributes to the price of a vegetable is the price of other foods that are used as a complement to, or as a substitute for, that vegetable. Since fresh cucumbers are a salad vegetable, it was felt that the prices of lettuce and fresh tomatoes, also traditional salad vegetables, might influence fresh cucumber prices. Total U.S. population was studied because changes in population may result in changes in demand. Per capita disposable income is another factor usually associated with the demand for a commodity, and was included in the analysis.

### Data

The study was based on data for the 1959/60 to 1974/75 seasons. Price-quantity relationships were estimated on a monthly basis at the wholesale level, treating the U.S. as a single market. Since no U.S. average wholesale cucumber price is reported, the average of the New York and Chicago prices was used as a proxy for the U.S. average. This average was computed from wholesale prices

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reported by the Agricultural Marketing Service (ARS) (4).<sup>2</sup>

Cucumber quantity data was compiled from various sources. Texas, California, and South Carolina production during the fall and spring quarter were taken from SRS estimates of quarterly production (10). These quarterly estimates were distributed among months on the basis of cucumber shipments (5). Production for the winter quarter was based on reported shipments from these areas (5). Florida production was based on (2). Mexican shipments were reported monthly by the U.S. census.

Prices for fresh tomatoes and lettuce were f.o.b. shipping point prices reported in (8). Population was that reported by the U.S. Census Bureau, and disposable personal income was that reported by the U.S. Department of Commerce. (6,7).

### The Statistical Price Equation

Several different statistical equations were tested in examining the relationship between cucumber prices and contributing variables.<sup>3</sup> The equation which gave the best estimates was one using logarithms.

<sup>2</sup>Italicized numbers in parentheses refer to references listed at the end of the report.

<sup>3</sup>The analysis involved estimating the macro relationship between total quantity of cucumbers marketed and the market price of cucumbers with a single equation model. The quantity of cucumbers reaching the market during any given month was assumed to be predetermined by production decisions and growing conditions during several months previous to marketing. The exact form of the model was:

$$P_{jk} = A_0 + B_0 Q_{jk} + \sum_{L=1}^6 (A_L D_L + B_L S_L) + A_m P_{jk}^L + A_n P_{jk}^T + A_t Y_k + A_p P_k$$

The coefficients and variables were defined as follows:  $P_{jk}$  = average of the New York and Chicago wholesale cucumber prices per cwt. during month  $j$  of year  $k$ , deflated by the wholesale price index for the year during which the season began;  $A_0$  = intercept coefficient for the base month of January;  $B_0$  = slope coefficient for the base month of January;  $Q_{jk}$  = quantity of cucumbers marketed in 1,000 cwt. in month  $j$  of year  $k$ ;  $A_L$  = intercept shifter (added to  $A_0$ ) for month  $L$ ;  $D_L$  = intercept shifter variable where  $D_L = 1$  if  $L = j$  and 0 if  $L \neq j$ ;  $B_L$  = slope shifter coefficient (added to  $B_0$ ) for month  $L$ ;  $S_L$  = slope shifter variable where  $S_L = D_L Q_{jk} = Q_{jk}$  if  $L = j$  and 0 if  $L \neq j$ ;  $A_m$  = intercept shifter for price of lettuce;  $P_{jk}^L$  = the U.S. grower average price of lettuce during month  $j$  of year  $k$  deflated by the wholesale price index for the year during which the season began;  $A_n$  = intercept shifter for price of tomatoes;  $P_{jk}^T$  = the U.S. grower average price for fresh tomatoes during month  $j$  of year  $k$  deflated by the wholesale price index for the year during which the season began;  $A_t$  = intercept shifter for personal income;  $Y_k$  = the U.S. average disposable personal income per capita for the year during which the season began, deflated by the wholesale price index for the same year;  $A_p$  = intercept shifter for population;  $P_k$  = the U.S. total population (48 States).

The estimated parameters and their respective standard errors, for the equation selected as "best" were:

$$\begin{aligned} \log P_{jk} = & 3.499 - 0.2219 D_{\text{Nov.}} - 0.2532 D_{\text{Dec.}} + 0.1348 D_{\text{Feb.}} \\ & (0.737) \quad (0.0785) \quad (0.0674) \quad (0.0730) \\ & + 0.0562 D_{\text{Mar.}} + 0.2948 D_{\text{Apr.}} + 0.3136 D_{\text{May}} \\ & (0.0692) \quad (0.0776) \quad (0.1002) \\ & - 0.7664 \log Q_{jk} + 0.2659 \log P_{jk}^T - 0.0926 \log Y_k \\ & (0.0903) \quad (0.1021) \quad (0.1499) \end{aligned}$$

The  $r^2$  was .71

In order to demonstrate the use of the statistical equation developed in this study and to illustrate its ability to predict future prices, cucumber prices for the 1975/76 and 1976/77 winter seasons were estimated. Estimates of the quantity of cucumbers marketed, the tomato prices, and the per capita disposable incomes were used to predict cucumber prices (table 2). Predicted cucumber prices were then compared with reported prices and the error of estimate computed.

Generally, the statistical equation was able to predict the correct direction of movement in cucumber prices. As reported prices increased (decreased) from month-to-month within a given season, or for a given month from season to season, the estimated price moved in the same direction. For example, the reported price was \$13.56 per cwt. during November 1975 while estimated price was \$17.76. Reported price rose to \$21.68 for December while estimated price increased to \$20.20. In a similar way, as the reported cucumber price increased from \$13.56 in November 1975 to \$22.90 in November 1976, the estimated price increased from \$17.76 in November 1975 to \$18.43 for that month in 1976.

Estimated prices were close to reported prices for some months, see for example January and February of 1976 and January and May of 1977. However, the estimated prices were rather wide of their marks during some other months with errors of nearly \$4.50 per cwt. for November 1976 and March 1977. The average error of estimate was \$2.65 per cwt. for the two seasons. Generally, the statistical equation had the greatest difficulty predicting prices when reported prices were extremely high, as in March 1977, or extremely low, as in November 1975 and May 1976.

### Factors Determining Prices

Quantity of cucumbers marketed is important in determining the price of cucumbers. Results indicate that for each 1 percent change in quantity, cucumber prices change 0.766 percent in the opposite direction, assuming all other factors affecting cucumber price remain unchanged, (table 3).

Table 1—Estimated total quantity of fresh cucumbers marketed, by source, 1975-76 season

Source	Month						
	November	December	January	February	March	April	May
	<i>1,000 cwt.</i>						
California .....	34.4	12.3	2.5	3.2	4.7	26.5	87.5
Florida .....	326.9	176.2	72.0	—	38.9	553.0	578.9
Texas .....	76.0	16.3	—	—	—	23.1	103.4
South Carolina .....	—	—	—	—	—	—	51.6
Imported .....	11.9	158.9	498.7	638.3	428.9	230.8	22.3
Monthly total .....	449.2	363.7	573.2	641.5	472.5	833.4	843.7

Source: Texas, California and South Carolina production during fall and spring quarter based on SRS quarterly estimates allocated among months of basis of reported shipments [5, 10]. California winter quarter production based on reported unloads

[3]. Winter quarter production for Texas based on reported shipments. Florida production based on [2]. Imports based on census data [8].

Table 2—Estimated total quantity of fresh cucumbers marketed, tomato prices and reported and statistically estimated fresh cucumber prices, and error of estimates, 1975-1976 and 1976-1977 seasons

Season, month	Quantity marketed	Tomato price <sup>1</sup>	Cucumber prices		Absolute error of estimate <sup>3</sup>
			Reported	Estimated <sup>2</sup>	
	<i>1,000 cwt.</i>		<i>dollars per cwt.</i>		
1975-76					
November .....	449.2	20.30	13.555	17.756	4.201
December .....	363.7	20.20	21.675	20.204	1.471
January .....	573.2	21.10	19.385	18.579	0.806
February .....	641.5	21.80	20.345	19.673	0.672
March .....	472.5	21.40	24.495	22.876	1.619
April .....	833.4	21.10	15.515	18.727	3.212
May .....	843.7	11.40	12.280	16.049	3.769
1976-77					
November .....	484.7	26.10	22.900	18.434	4.466
December .....	458.1	20.30	20.254	17.450	2.804
January .....	544.4	23.80	21.536	20.544	0.992
February .....	737.0	31.40	24.091	20.062	4.029
March .....	383.5	34.50	35.955	31.374	4.581
April .....	903.7	26.30	23.068	19.210	3.858
May .....	1,004.3	19.30	15.955	16.636	0.681

<sup>1</sup> U.S. monthly average grower prices reported in Agricultural Prices SRS [9]. <sup>2</sup> Estimates based on disposable personal incomes of \$5,062 for the 1975-76 season and \$5,493 for the

1976-77 season. <sup>3</sup> Difference between estimated prices and reported prices.

Hence, if the price of cucumbers is, say, \$20.00 per cwt. with 600,000 cwt. of cucumbers marketed, a 10 percent increase in cucumber supplies (perhaps due to a large crop or a new source of supply) to 660,000 cwt. would result in a decrease in price by about 7.66 percent to \$18.47 per cwt.<sup>4</sup>

Month of the year also is important in determining the price of cucumbers. A given quantity of cucumbers early in the winter season results in a lower price than later in the season. For example,

<sup>4</sup>In a similar study (1), the percentage effects of changes in cucumber quantity on price was slightly larger than those observed in this study, ranging from .97 to 1.93 for different months during the winter season, with most estimates being in the range 1.0 to 1.25.

if 600,000 cwt. of cucumbers during January result in a price of say, \$18.00 per cwt., the price of the same amount would be \$14.42 in November, \$13.97 in December, \$20.59 in February, \$19.04 in March, \$24.17 in April, and \$24.62 in May. This assumes, of course, that other contributing factors, such as disposable income and tomato prices, remain unchanged over the period, a situation that seldom occurs.

Tomato price changes tend to influence cucumber prices. A 1-percent change in the price of tomatoes results in about a 0.266 percent similar change in the cucumber price. This suggests that consumers treat fresh cucumbers as a substitute for fresh tomatoes—that is, when the price of tomatoes is high, consumers tend to buy more cucumbers,



**Table 3—Contribution of selected factors to changes in the average price of fresh market cucumbers, U.S., based on 1960-1975 data**

Contributing factor	Effect on cucumber price (percentage change) <sup>1</sup>
Quantity cucumbers marketed . . . . .	-0.766
Price of tomatoes . . . . .	0.266
Per capita disposable income . . . . .	-0.093
	(percentage change from January base)
Month of year	
November . . . . .	-0.199
December . . . . .	-0.224
January . . . . .	—
February . . . . .	0.144
March . . . . .	0.058
April . . . . .	0.343
May . . . . .	0.368

<sup>1</sup> The signs indicate the direction of change with respect to a change in the respective contributing factors. Negative signs indicate that the price will change in the opposite direction from the change in the contributing factor. Positive signs indicate that cucumber price and contributing factor will change in the same direction.

perhaps substituting them for tomatoes in salads, resulting in a higher price for cucumbers. Likewise, if the price of tomatoes falls, consumers apparently purchase less cucumbers resulting in a lower cucumber price than would otherwise prevail. Thus, if the fresh cucumber price is \$20.00 per cwt. with a \$20.00 per cwt. tomato price, and the tomato price increases 10 percent to \$22.00 per cwt., the cucumber price would be expected to rise about 2.66 percent to \$20.53.

Lettuce prices did not seem to be an important contributing factor. Apparently increases and decreases in the lettuce price do not affect consumer purchases of cucumbers in a consistent manner.

Neither did changes in total population seem to be important in determining cucumber prices. Other factors such as change in the population composition, which were not included in the analysis apparently offset the effects of additional population on cucumber prices.

The analysis indicates that per capita disposable income is not a very important factor in determining cucumber prices. Statistically, the income effect was not different from zero. However, because income is traditionally considered an important contributor to price of any commodity, the income variable was permitted to remain in the price equation. Further investigation into the structure of cucumber demand should clarify the nature of the income effect. This present study only concentrated on specific variables that impact on *wholesale* price, and as such, the results should not be interpreted as estimates of the structure of cucumber demand.

This price-quantity model used to investigate factors determining prices of winter season fresh cucumbers has provided some useful insights. In some cases, the model does not give fully acceptable predictions of price levels as it misses the more extreme price variations. However, it indicates effectively the direction of price change in response to change in other variables. As expected, the quantity of cucumbers available exerts the strongest influence on price. The model also noted that a change in the price of tomatoes was found to induce a price change in cucumbers in the same direction, indicating that cucumbers may be substituted by consumers and institutional users depending on relative prices. On the other hand, changes in lettuce prices did not influence cucumber prices, while the effects of population and income were inconclusive.

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